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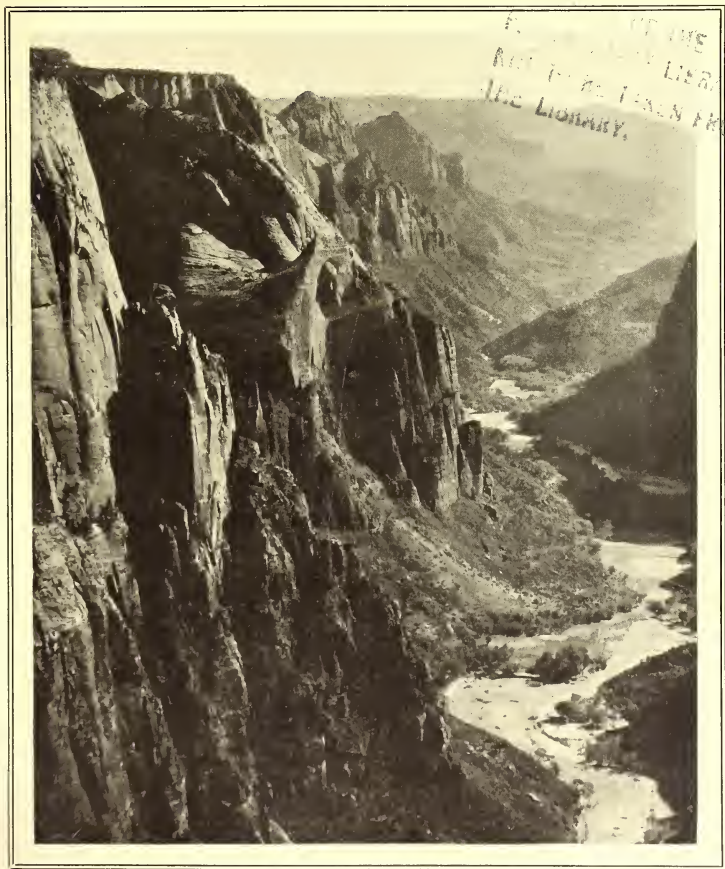
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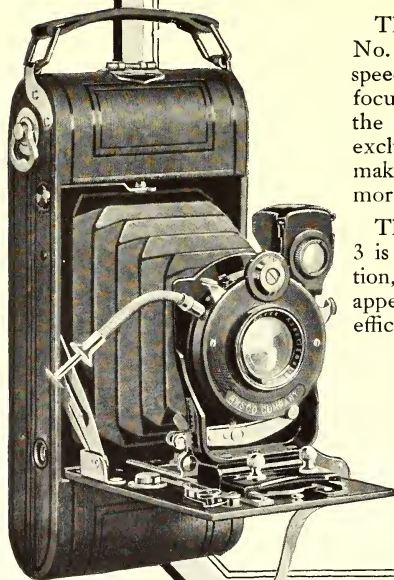
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The Dictionary of Photography	E. J. Wall, F.R.P.S.	2.50	July 1912
Everyman's Chemistry	Elwood Hendrick	2.00	Dec. 1917
Handbook of Photomicrography	H. Lloyd Hind & W. B. Randles	2.50	June 1914
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Optics for Photographers	Hans Harting, Ph.D.	2.00	Aug. 1918
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*Photography for Students of Physics and Chemistry	Louis Derr, A.M., S.B.	1.40	Dec. 1913
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Saturday with My Camera	S. C. Johnson	1.75	Nov. 1914
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ART-BOOKS

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No. 1

Lo, the White Indian

WINN W. DAVIDSON

HE intention of this article is not only to show how the Indian may be photographed paler than the pale-face, but incidentally to explain how the pale-face can be prevented from appearing darker than the copper-skinned Indian.

How well do I remember my first attempts at portraiture. The white collar of the victim was the only thing that acted according to schedule when the developer was poured on the plate; but I was sure that the face had not been left out of the picture, so I kept on developing—and developing—and, of course, the longer I developed, the whiter the collar became in the final print—and the blacker the face. The thing was hopelessly underexposed, although I had given just as much exposure as I did to other pictures I had made. That was the difficulty, exactly. I had failed to distinguish that they were all fairly distant views; and even had I noticed this difference, the chances are that I would have fallen into the mistaken logic of a number of amateurs who have discussed the point with me since that time.

They reason that the intensity of the light varies inversely as the square of the distance; that if an object is ten times as far away, it will transmit to the lens only one one-hundredth as much light as a similar object at unit distance. Correct, as far as it goes, except that distant objects tend to take on a blue color that affects the photographic plate more strongly than less actinic colors. But when they say that the object at unit-distance should require only one one-hundredth as much exposure as the object ten times as far away, they are very decidedly in the wrong.

The trouble is that as the object increases its distance from the lens, it no longer fills the whole picture-space. It becomes finally only a small part of a landscape-panorama. That is, in an open landscape we have a hundred square miles

of light shining into the lens as against twenty-five or fifty square feet in the average portrait. If we were to use a telephoto-lens so as to keep the image the same size, while the distance to the object was increased, we should find the exposure increasing directly as the square of the distance or as the square of the magnification which would be a measure of the distance.

Luckily for the uniformity of exposures, in general, the area that is throwing light into the lens increases, while its intensity decreases, in direct proportion to the square of the distance in both cases. So that, outside of the greater amount of actinic blue light in distant views, we should expect virtual uniformity in exposures at all distances.

But there is another important factor to consider. In order to focus a portrait, the camera must be extended further than for more distant objects. With a 7-inch lens I find that the distance on the focusing-scale between the 100-foot mark and the 7-foot mark amounts to $9\frac{1}{16}$ of an inch. That is, when focused on an object 7 feet away, a 7-inch lens really has a focal length of $7\frac{9}{16}$ inches. The diameter of the stop remaining the same, it is a smaller proportion of the focal length, giving a smaller f-value. In effect, it is a smaller stop and requires a longer exposure for a successful result.

With the lens mentioned, the f-values of the stops are as $1/7$ to $1/7.56$ or squaring these ratios we find the relative exposures are as 49 to 56.2, or the near exposure is 1.17 times as long as before.

Distant views in a hazy atmosphere are noticeably lacking in contrast, and a short exposure tends to give them more contrast. With near objects, the shadows are not veiled by any blue haze; this gives greater contrast which can be overcome by longer exposure. Also, a softer print is generally desired in portrait-work than in landscape-work, and this adds still more to the duration and importance of the exposure.



PIETRO

WINN W. DAVIDSON

In addition to this, we must remember that the human skin is far from being white—shades of tan and pink are generally in evidence, and these colors are relatively slow in acting on even an orthochromatic plate. Due to this cause alone, I have known of extreme cases—where yellowish red predominated—that an exposure nine times normal was not excessive. This, despite the fact that the exposure had already been calculated for an 8-times ray-filter. The final exposure was thus seventy-two times that which might have been given ordinarily. The net result of all these factors is the well-known rule that portraits require double the exposure.

If the subject is extremely tanned after a summer-outing at the beach, or has a beautiful olive complexion, or an unnaturally red one, you are safe in counting that the face will be too dark unless you use a ray-filter. In any event, if the faces are too dark in your prints, give them

a longer exposure. The rest of the negative will blacken over "too rapidly"; but do not snatch it out of the developer on that account. Develop it just as fully as if it had been underexposed, and you will get a good, plucky negative that can be printed on any of the professional portrait-papers that are ordinarily too soft for amateur-negatives. And the skin will have that luminous professional quality that the amateur fondly believes is due to retouching.

When my first Indian subject surrendered himself into my hands, I realized that the element of color was undoubtedly present and decided that, since I was using a ray-filter, I might just as well use a strong one. So I prepared a twenty-per-cent solution of bichromate of potash and filled my liquid cell-filter with it.

The chemist and meteorologist can probably figure out my exact location on the map from the data given. At any rate, when I got back to civilization, my filter was half full of bichromate crystals due to the cooling of the solution; and if I had ventured further out into the desert, the water would in all likelihood have evaporated faster than I could have filled the cell.

Probably, a glass or gelatine-filter of a deep orange color would have been more satisfactory for the purpose; for, on account of the rapid evaporation, I had to fill the filter as full as it would hold and by the time I was ready to use it countless small bubbles always formed on the inside of the glass-faces. It was an endless task to collect these into one big bubble, as each little bubble had to be struck by the big one before it would budge. By leaving a small bubble to attract the other bubbles, when I filled the filter, I afterward reduced this trouble to some extent. The bubbles were probably due to air being forced out of the solution by the heat. I thought, at first, that they were caused by the breaking up of a small bubble which I might have left in the filter accidentally when I filled it.

For this work I used Cramer Portrait-Isonon or Hammer Non-Halation Ortho-Plates; the latter are double-coated. Exposures in brilliant sunlight ranged from one to three seconds with the lens at F/7 or F/8 (U. S. 3 or 4). And even with this exposure, parts of the negative showed a close approximation to clear glass, though the highlights were quite dense. These plates are very rich in silver and they have a tendency to yield plucky negatives even with considerable overexposure. My preference is for a single-coated plate, as the double-coated are inclined to give more contrast than is expected and are slow to dry; this latter quality increases the danger of frilling or melting in a hot climate.

At that time I did not make use of panchro-



CHAPARAJOS

WINN W. DAVIDSON

matic plates on account of the lack of electricity for my green safelight. Theoretically at least, a red-sensitive plate should be ideal for photographing the "red" man, but there are other points that might discourage their use.

For instance, the light leather on the saddles and also the sunlit parts on a bay horse always photographed too light and had to be dodged in the printing for perfect results. And, at the same time, the shadows on a bay horse were generally too black. With a panchromatic plate the shadows might have been lighter but the highlights might have become entirely white. The fingernails are also much whiter than the hand, probably due as much to their greater reflecting-power as to the color.

It will be noticed in these pictures that the sky is not dark as would be expected with such

a degree of overcorrection. This is probably due to the extremely long exposure. Also, the exposure was sufficiently long to give full shadow-detail in the black "chaps." This is not shown by the accompanying photographs as well as it might be because it gave an odd effect of lightness in the shadows; so I allowed the chaparajos to go black.

When I ventured to admire the black "chaps," their owner depreciatingly explained that he was going to change them for a red pair. Another problem for the panchromatic plate; they might photograph white! With an orthochromatic plate, however, they would probably reproduce as black as desired.

It may be objected that to photograph the Indian as white is to tell a lie; but at the worst it is a white lie and an exceedingly profitable

one. As a rule, at the fiestas and on other occasions, I could not induce an Indian to stand for his picture; but the Sunday following my delivery of my prints of "Pietro," a cavalcade of nine of them galloped in from the hills in search of the photographer.

I was not at home at the time and later was made the recipient of considerable banter from my friends. The last incident of the kind had followed the return of one of our noble race from the State's free boarding-school. His swarthy friends gathered to celebrate the event and expected him to furnish the "booze"; but no more of that for him. Regretting this lapse from his former care-free ways, they lassoed him around the neck and left him suspended from an oak-limb until he was rescued by a passer-by.

Secure in the belief that my photograph was not really as bad as all that, I waited for the cavalcade the following Sunday and photographed them seriatim in the same brand-new pair of "chaps." It was, indeed, a proud moment for me when Pietro pointed me out to them with a beatific smile as if he were discovering the eighth wonder of the world.

Incidentally, I missed what would have been the most profitable group-negative I ever made by inadvertently dropping the word "ya." Now, "ya" is German for "yes," and is tabooed, of course; but it is also Russian for "I" and is

a very common word—of course. I always have to stop and get my bearings to be sure which language I am thinking in.

In the midst of an exciting evolution in trick and fancy riding, I was trying to get them all on the plate at once. I hear the word "ya" banded in the crowd. One of them asks the other pleasantly, "Does he want us to stay this way any longer?" Not to be outdone in pleasantness, I smile an exultant "ya" at him as I see that everything is ready for the plateholder to go in; but judge my amazement when the group melted like snow on the desert! Then I remembered that in Spanish "ya" means "already"; not such a common word as in the other languages. I never got that group together again.

They cared nothing about the price, but ordered the best I had of everything; my *de lux* mounts with the silk tassels on them that never before sold in quantity disappeared like hot cakes; and there were repeat orders for a year or two—as long as I stayed in that part of the country.

The suggestion has been made since that one might dress a negro in a white suit and blacken his collar and shirt-front with shoe-polish; then by using a piece of bromide paper for a plate it would give a direct positive of a white negro—that is, the paper-negative would pass for a positive. But I will leave that for some of our Southern friends to experiment with.

A Good Word for the Film-Pack

E. L. C. MORSE



BEFORE saying a word on the eternal controversy as to the relative merits of plates, roll-films and film-packs, let me say that I am not interested financially in the slightest degree in any photographic product of any kind. And I don't mind admitting frankly that personally I prefer plates to either roll-films or film-packs. But at present, I am trying to strike a balance fairly between the merits of roll-films and film-packs only.

As to portability and economy of space, there is little to choose between the two. One can carry in the pocket without inconvenience enough emulsion surfaces to satisfy the most inveterate snap-shooter. However, roll-films often come in sixes, but film-packs come in dozens. For the person who is impatient to develop the whole lot, the six-roll scores, al-

though in a darkroom a single film may be taken out of the film-pack and be developed by itself. But people who use films rarely have the skill or patience or conveniences to do this.

As regards the shape and bulk of the camera designed for the use of roll-film and that intended for film-packs, the roll-film camera is longer and narrower and the film-pack camera is thicker and more box-like. In a container with attached strap over the shoulder the longer and narrower article seems to conform more to the shape of the human body, is less obtrusive and easier to carry. Using the film-pack camera one carries a film-pack adapter in a side pocket and inserts it in the camera when needed. However, this fact might militate against its use with the fair sex who as a rule are not blessed with so many pockets as we men are. Speaking in a general way, I should say that for most people, that is,



"IN THE TRENCHES"
GEORGE C. BLAKESLEE

for the general, every-day, summer-vacation snap-shooter, the roll-film camera has a slight advantage in this respect over the film-pack.

Let us now consider the manipulation of the camera: the loading and unloading, the preparation for exposure and the protection of the exposed emulsion. With the roll-film you open the back of the camera, take out the empty spool, change it to the other end of the camera, and insert the fresh spool in the empty space thus made. Then you carefully unwrap the roll, attach the end in the slot of the top spool, turn the knob two or three times, close the back of the camera, wind carefully until the proper signal warns you to stop. You then make your picture and wind until the next signal is visible—and so on until the end of the roll. Should you over-shoot the mark, that emulsion surface is unavailable. Should you accidentally let your shutter snap, that surface is ruined. You now proceed to wind up the roll, open the back again, take out the roll, seal it up and put it away. Then you proceed as before, shifting spools, threading and winding.

Let us now consider the manipulation of the film-pack. You put the pack in the adapter, insert the adapter in the back of the camera, pull off the blind-tab, pull out the slide, make your picture and push back the slide of the adapter. You need fear no accident from accidental snapping of the shutter. It is impossible to wind too far or not far enough because there is no winding to be done. Or, if you want to change to an orthochromatic or panchromatic plate, you simply take the closed adapter out of the camera; no harm is done to the exposed surface of the film-pack. This is impossible with roll-films. Assuming now that the last surface of the film-pack is used and that you wish to continue with the next pack, what is the *modus operandi*? Simplicity itself! You simply take the film-pack out—shake it out in broad daylight if you wish—and place another film-pack in its place. No changing of spools, no threading, no unwinding—just about as simple an operation as turning over a leaf in a book. In this respect the film-pack scores heavily over the roll-film. Is this point overemphasized?

Last summer, I felt pretty well fatigued after my year's labors, and I bade farewell to the family, jumped on the train for Davenport, Ia., where I engaged passage on a Mississippi river-boat to Saint Paul and return. It was a slow old tub of a stern-wheeler with an old-fashioned pilot and a crew of negro-stevedores. Nobody was in a hurry, the accommodations were primitive but wholesome, and the passengers congenial. At first I had thought of leaving my camera at

home, but repenting at the last moment, I slung over my shoulder daughter's $2\frac{1}{4} \times 3\frac{1}{4}$ roll-film camera, leaving at home my more elaborate apparatus.

Of course, I attempted a picture now and then. "Once a photographer, always a photographer," if the materials are at hand. And, in that trip, the usual comradeship sprang up between camera-users—in this case between a "school marm" on vacation and myself. She had a film-pack camera, and I had a roll-film camera. I never was a strong admirer of roll-films, but after that trip I made up my mind that henceforth I would never use roll-film if anything else could be had.

Good subjects on the Mississippi river are rare—genre-subjects—I mean—outside of the crew. Picturesque—generally unpicturesque—villages abound and occasionally an interesting natural scene, but river-traffic is deplorably lacking. However, one bright morning we saw coming down stream a sure-enough Mississippi passenger-steamer, old-fashioned stern wheeler with swinging gang-plank and twin smokestacks. Miss Priscilla and I brightened up. We obtained a good snapshot head-on, side-view and rear, showing the typical wheel lazily churning the surface of the "Father of Waters."

It so happened that we were both of us at the end of our photographic rope—my film and her film-pack. Just that moment there hove in sight the one really worthwhile picture of the week—a motor-launch, with the family and dog, merrily speeding downstream. Behind the launch, standing on a board attached to the launch, was a girl of about twelve years of age with her hair flying in the breeze, the picture of health and youth. She stood at the farther end of the board which was under water—a striking subject for a snap-shot. Naturally, we both hurried to catch a scene that rarely blesses the vision of the camerist. Miss Priscilla simply drew out her adapter, opened the slide, shook out the pack on her lap, inserted a fresh pack, shoved the adapter back, pulled the tab—and *made two beautiful pictures*. And I? Why continue the harrowing and mortifying tale? By the time I had wound up—opened the back—sealed up—changed spools—threaded anew—replaced the back—wound up to the proper place—the exquisite vision had gone down the river, glimmering into the limbo of missed opportunities and regrets unforgettable. "Never again!" said I.

Although the average film-user generally has some one else print and develop his films, it may not be amiss to consider for a moment the development of roll-films and film-packs. Undoubtedly, the machine-development of film-



HAWAIIAN LANDSCAPE

HERBERT B. TURNER

packs is simpler and easier than that of roll-films, provided one has a darkroom to load the machine—this may be simply a darkened room. Or, one may develop in daylight, using the rather complicated box with cranks and apron. On the other hand, the pack-system lends itself to special treatment for known under- or over-exposures. By means of a convenient memorandum made at the time, one can tell which film to select from the pack for soft or hard contrasts—provided always that the amateur has progressed beyond the snapshot, machine-development stage of his photographic career. Any stationery-store will furnish cheap and satisfactory spring-clips which can be used to hold film-packs. Thus handled, they may be developed, washed, fixed and dried about as easily as plates—a clip to each film.

Summing up the advantages and disadvantages of the two systems—film-packs and roll-

films—it may be said that the roll-film camera has a slight—very slight—advantage in economy of space and portability. With machine-development the film-pack requires a darkened room or changing-bag, but the operation is much simpler. With hand-development desired results are more easily attained with film-packs. In the matter of changing—speed, ease and simplicity of manipulation—the film-pack is easily the superior. The film-pack camera has the not easily overestimated advantage of being usable for either packs or plates at the pleasure or convenience of the operator. For young ladies—and lady-like men—who don't mind spending ten or twenty-five dollars for a combination of pretty toy and camera, the slimness and compactness of the roll-film camera is the deciding factor. For serious and experienced camerists the combined film-pack and plate-camera offers the greater advantages.

Experiences with the Gum-Bichromate Process

WILLIAM F. GINGRICH



URING one of the periodic epidemics of photographic fervor, several years ago, the writer contracted a malignant form of gum-bichromate fever. Craving relief and satisfaction, he searched the archives for knowledge of the process and, as a result, arrived at three conclusions—first, he became positively convinced of the artistic possibilities of gum-bichromate; secondly, he was assured of, and impressed with, the ease and certainty with which it was said that even the novice could get results, and, thirdly, he obtained a rather confused notion of the methods followed by some six or eight self-styled “successful gum-workers.”

To his stock of enthusiasm and courage, he added a more or less appropriate collection of bichromates, gums, colors, brushes and paper, and at once set about to establish his reputation as a successful gum-worker. Then followed the usual and not altogether encouraging experiences so well-known to the gum-bichromate enthusiast. He passed through the flaking-off stage, the experimental stage and the partial-success stage. Failure after failure was his only reward; but his persistence was indomitable. He tried everyone's method, singly and in almost every possible combination; he experimented with methods all his own. For three months he tried to make a successful print from a single negative, and then succeeded. That print has given him more genuine pleasure and satisfaction than any other he ever made, for it marked the end of failure and the beginning of success. The writer is a modest

man, but admits meekly that he now counts himself one of the successful gum-workers, and that he can obtain results which are not only pleasing to himself, but which elicit praise from his friends, some of whom claim a degree of artistic taste.

During the time the writer was wrestling with formulas and instructions, which were not always definitely stated or easily understood, he

made a solemn vow that if he ever mastered the gum-bichromate process, he would set forth a method so clearly that any beginner might follow it with a reasonable assurance of success, making it unnecessary for him to struggle through months of experimentation, discouragement and, possibly, final disappointment. Like other successful workers, the writer is eager to shout his message from the housetop, and offers the following instructions in the hope that they may encourage others to achieve the beautiful results possible only with this extremely interesting process. Before giving definite information how to proceed, I beg to offer a few general suggestions:

1. Do not expect to get good results with this or any other method unless you follow instructions precisely.
2. No procedure is herein explained which has not been tried successfully. Obviously, in any process, if all conditions are repeated exactly, the results will surely be the same.
3. Do not invest heavily in an elaborate supply of material. The requirements are few and inexpensive.
4. (Confidential.) If it is necessary for you



THE AUTHOR

WILLIAM F. GINGRICH

to do your gum-work in the kitchen, and the wife is inclined to be unreasonable or unsympathetic, let the gum-bichromate process alone.

MATERIALS NEEDED

2 oz. gum arabic (tears).
2 oz. potassium bichromate.
1 oz. (more or less) household ammonia.
1 lb. (more or less) powdered alum.
1 tube lamp-black (ground in water).
1 varnish-brush.
1 badger blender.
Whatmans's H.P. or Strathmore watercolor-paper.

Tray, drawing-board, pushpins, cheese-cloth.

Other watercolors may be added to the above list after the beginner has become somewhat proficient in the work.

STOCK-SOLUTIONS

The Gum-Solution.—Place the gum-arabic in a piece of cheese-cloth and suspend it in three ounces of cold water placed in a wide-mouthed bottle or jar. The gum should dissolve wholly in twenty-four hours or so, and should be the consistency of thick mucilage. However, if all of the gum has not filtered through the cheese-cloth in that time, gentle pressure between the thumb and fingers should bring about the desired result. To keep the solution from turning sour, add three or four drops of household ammonia. The bottle should then be corked to prevent evaporation.

The Bichromate-Solution.—Place the potassium-bichromate in an amber-colored bottle or a bottle wrapped in opaque paper and add four ounces of warm water. This will form a saturated solution, and some of the crystals will remain undissolved. More water may be added as the solution is used provided it be kept at saturation.

Into a teacup pour two teaspoonfuls of the gum-solution. Squeeze out of the tube one inch of lamp-black. Using the teaspoon as a pestle, grind the color into the gum until the mass is thoroughly incorporated and quite smooth. Add three teaspoonfuls of the bichromate solution and stir well. Next, rinse the varnish-brush in clear water and switch it as nearly dry as you can. Then thoroughly work up the coating-mixture with the brush, taking care to leave no unmixed color on the sides or bottom of the cup. In order to protect your drawing-board from color, cover it with a piece of newspaper without creases. Rest the board at an angle of about forty-five degrees, and pin to it a piece of the drawing-paper about 10 x 12 inches in size, fastening a pushpin firmly at each corner. Pull down the shades in order to subdue the light, and give



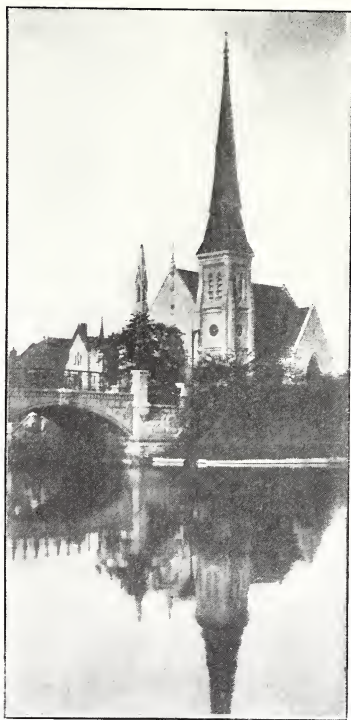
BETTY

WILLIAM F. GINGRICH

the mixture a final stirring with the brush. Then with a fairly full brush, quickly but skilfully lay on the mixture, first with horizontal then with vertical brush-strokes. Before the coating sets, take up the blender—without color, of course—and go over the paper again, first horizontally then vertically, holding the brush perpendicular to the paper and barely letting the ends of the hair touch the coating. As soon as the surface is made as smooth as possible, hang up the paper in a dark closet to dry—this should require not more than twenty or thirty minutes. As soon as you have finished coating, wash the brushes thoroughly in water.

Much of the success with gum-work depends upon a suitable negative from which to make the print, and the proper exposure in printing. Choose a negative which inclines a little toward thinness but which has good detail in the shadows. Almost any negative suitable for printing with printing-out paper will prove satisfactory with the gum-bichromate process.

As with all papers, the exposure in printing will vary with the density of the negative, the strength of the light and the thickness of the emulsion; but a few trials will determine what exposure to give. Using narrow strips of the



THE SPIRE

WILLIAM F. GINGRICH

sensitized paper, make three tests, exposing in direct sunlight for one, two and four minutes, respectively. Do not be dismayed when you remove the strips from the printing-frame if there is but a slight visible image, but put the strips face down in a tray of clear water and let them remain for fifteen minutes, then examine. If your negative is of average density, you will probably find that the coating upon the strip which received the shortest exposure has soaked almost or entirely off, indicating that the exposure has been too short. On the strip which has received the longest exposure, the coating has perhaps hardly begun to soften, indicating that the exposure has been too long. If the two-

minute strip has received about the correct exposure, the emulsion will be softened by the water, and the image will be strongly visible; although twenty or thirty minutes more soaking will probably be required to develop the print fully. Having determined the proper exposure, you may trim a piece of the sensitized paper to the size of your negative and make your print.

Development may proceed automatically, as in the case of the test-strips; most workers, however, prefer to put character and individuality into their work by local manipulation. Indeed, the pictorial quality so much admired in gum-prints depends very largely upon the success with which this local treatment is carried on.

In order to describe the process, let us suppose that you are making a print from a landscape-negative, and decide that its pictorial quality could be much improved by making the roadway a little lighter in tone, and by making the sky lighter near the horizon. Take the partially developed print carefully from the tray and place it face up on a sheet of glass somewhat larger than the print. By means of a quarter-inch rubber-tube attached to the faucet, let a single drop of water fall upon the part to be made lighter. If no effect is produced, increase the flow of water until the desired result is obtained. Sometimes, it is necessary to use a spray, or even to direct a steady stream on some parts of the print in order to wash away a sufficient amount of color. Sometimes skilful handling with a small water-color-brush, well filled with water, may have to be used. If the paper has been printed too long, increasing the temperature of the water may result in saving the print, although if much over-exposed it is hopeless. It must be borne in mind that a wet print which has been exposed properly, is extremely delicate; one drop of water in the wrong place or one careless or injudicious stroke with the brush may ruin the picture.

When development is finally completed, rinse the print carefully in clear water and hang up by the corners to dry. In order to remove all trace of bichromate-stain, place the dry print in the following clearing-bath: Powdered alum, 1 oz.; Water, 20 oz.

After the print has remained in the clearing-bath ten or fifteen minutes, it may be rinsed thoroughly in clear water and hung up to dry, when it will be ready for trimming and mounting.

No reference has been made in this article to multi-printing and multi-color work. Before such elaboration should be attempted, it is absolutely necessary that the beginner master the fundamental steps of the process. Unless he does that, his more ambitious efforts will result in nothing but failure and disappointment.

The "Wet" and the "Dry"

(Fourth of the "Professor Pyro" Talks)

MICHAEL GROSS



ALTHOUGH, as I mentioned in my last talk, Daguerre gave his process to the French Government and then patented it in England," began Professor Pyro, at the fourth meeting of the "Evolution-of-Photography" class, "the daguerreotype proved more popular in America than in France or England. In fact, very few specimens of this process can be found in England now. In the same year that Daguerre made known his method, Morse established a pretentious photographic studio on Broadway, New York, to which he gave the grandiloquent title of 'The Palace of the Sun.' He immediately started to flood the local newspapers with advertising-matter. In these, he described, not the process itself, but the joy of being able to obtain likenesses of those one loved.

"When it is remembered that in those early days all portraits made by the Daguerreotype-process were made by whitening the face of the sitter and placing him or her in the sun for a half hour or even longer, the 'angle' chosen by Morse for his advertising-copy may be readily understood. I might mention, in passing, that this lengthy exposure was soon cut down to twenty seconds by John Frederick Goddard, who discovered the accelerating-properties of bromine, which, with iodine, produced bromo-iodide of silver on the surface of the plate. Goddard's discovery, needless to say, did much to make the daguerreotype a commercial success.

"As an interesting sidelight of those early days, I have copied two 'Palace of the Sun' advertisements from the New York papers of Morse's time.

"**"TO THOSE WHO LOVE"**—reads the headline of the first one, taken from the New York *Sun*, surely a universal appeal, if there ever was one. 'How cold must be the heart that does not love,' the announcement continues reflectively. 'How fickle the heart that wishes not to keep the memory of the loved ones for after-times. Such cold and fickle hearts we do not address. But all others are advised to procure miniatures at Professor Morse's Daguerreotype Establishment.' Here is another, from the New York *Tribune*, which begins with the solemn headline: 'IN AFTER-YEARS' followed by the text: 'In after-years to retain in our possession the likeness of some one who has been loved by us is a delicious, even if sometimes a melancholy,

pleasure. Such a pleasure can any one enjoy who patronizes Professor Morse, the celebrated Daguerreotype Artist in his Palace of the Sun on Broadway.' Note the skill with which all details of the process itself are left out of these 'early-day' advertisements, and how 'sob-stuff' that would do credit to Laura Jean Libby is substituted in its stead. To paraphrase a famous advertising-slogan: 'There was a reason.'

"The daguerreotype held sway for about ten years, from 1839 to 1851, although early in 1849 the skids on which the art and practice of daguerreotype were to slide to oblivion were already being prepared by Gustave Le Gray, who, in that year, began to make photographic experiments with a substance called collodion, which consisted of a solution of guncoffin in ether and alcohol. This preparation was introduced into England in 1847 and Le Gray tried to use it as a means to improve the discovery of Niépce St. Victor, Niépce's nephew, who had placed the albumen-process—in which the iodide of silver was retained on the plate by means of the white of an egg—on the market.

"Le Gray tried to substitute collodion for the albumen used by St. Victor, but was not successful in the attempt. Frederick Scott Archer, an Englishman who was working along the same lines, finally mastered the working-details of the process and, in March 1851, wrote an article for a magazine called *The Chemist* in which he described the first workable method of what is to this day known as the 'wet-collodion' process. Archer made the first collodion-negative in 1848, and so popular did this process become that it displaced entirely the callotype and the daguerreotype, being used almost exclusively between 1855 and 1881. In fact, before Archer's time, photography was regarded as a curiosity, but the perfecting of the collodion-process made the art of picture-making, for the first time, popular.

"Even to this day, wet-collodion plates are considered excellent for and largely used in the making of lantern-slides and similar work. The only disadvantage in using the process was the fact that the plates had to be used while wet. A photographer who went out to make a few landscapes in the days of Archer had to carry along with him a darkroom on wheels in which his plates could be prepared. And yet I have heard some of you complain because you were sent out to do some architectural work and had

to carry an 11 x 14 camera and a few dozen plate-holders. The next time you get an assignment of this kind, think of what the photographer who wanted to do similar work in Archer's time would have to carry along and be glad that things aren't worse. To remedy the disadvantage of the wet-emulsion, desperate efforts were made by many would-be inventors to find something with which to cover and to dry the sensitive surface of a collodion-plate. Had our esteemed guardian of food-stuffs, Mr. Hoover, lived in those days, he would have found it a difficult task to carry out his plans for the conservation of food, for among the many substances experimented on and recommended as dryers for collodion-plates were brown sugar, white sugar, malt, raspberry-vinegar, molasses, tea, beer, coffee, and even tobacco. Despite his discovery of the collodion-process, his introduction of pyrogallie acid as a developer, and the invention of numerous other photographic innovations—including a camera in which plates could be exposed, developed and fixed—Archer died a very poor man, leaving his family destitute. A fund was immediately started to keep these poor unfortunates from starving to death and I have clipped a little notice from the June 13, 1857, issue of *Punch*, to give you an idea of how the appeal was made.

"TO THE SONS OF THE SUN"—the announcement is headed, and the text reads: 'The inventor of collodion is dead, leaving his invention unprotected to enrich thousands, and his family unportioned to the battle of life. Now, one expects a photographer to be almost as sensitive as the collodion to which Mr. Scott Archer helped him. A deposit of silver is now wanted (gold will do) and certain faces now in the dark chamber will light up wonderfully, with an effect never before equalled in photography. Now, answers must not be in the negative.'

"The expense of metallic tablets, and the labor and inconvenience of preparing collodion-plates, induced many experimenters to work in the direction of a dry photographic emulsion. The aim was accomplished when, on July 18, 1873, J. Burgess, of Peckham, advertised that he had for sale a ready-made solution with which photographers could coat glass and so make their own dryplates. However, the name of the actual inventor of dryplates is about as clear as the income-tax law—and as much argued about. Burgess, Maddox, Kennett Wratten, and many others were all aiming for the same goal, and it is hard to determine who reached it first. Suffice it to say, that the introduction of dryplates marked a new epoch in photography and when, in 1878, Wratten and Wainwright advertised

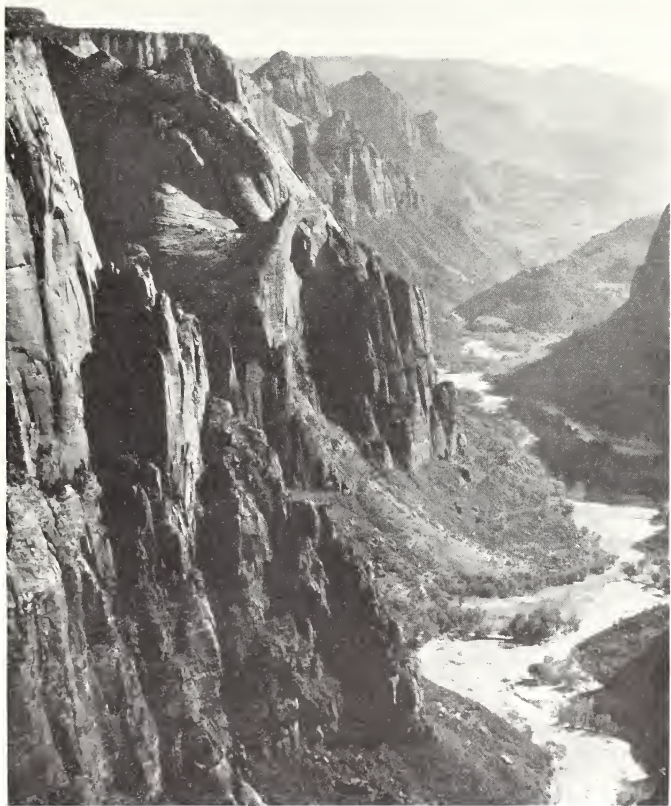
ready-made dryplates for sale, the product sprang into instant popularity and remains in universal use to this day.

"To go back to the source of the next step in photography, it is now necessary that we retrace our steps to the time of Archer again, and see what other men were doing in other lines. In 1859 Alexander Parkes, of Birmingham, patented the preparation of a substance made from nitro-cellulose and camphor. Hyatt, of Newark, afterwards commercialized Parkes' process, the product of which was called celluloid, and to this very day Newark remains the center of the celluloid-industry.

"However, it was not until almost forty years later, in 1884, to be exact, that celluloid was thought of in connection with photography. In that year John Carbutt, of Philadelphia, experimented with this material as a base. It must not be inferred, however, that attempts had not been made before Carbutt's time to make a film-roll. As far back as 1854, J. B. Spencer and H. J. Melhuish had already taken out a patent on a long sheet of sensitized paper upon which pictures could be obtained in succession, the unexposed parts of the strip being rolled up inside the camera. In 1868, Dawson, of London, published a method of producing a transparent, flexible supporting-film which could be used as a ground for a photographic emulsion. Both these 'roll-film' departures as well as many others that appeared from time to time, must have 'gone wrong' in the manufacture, for they never became popular. From 1884, the year in which John Carbutt started to work with celluloid, many more or less successful celluloid-films were placed on sale. Finally Eastman, in 1885, invented what was known as 'stripping-film.' This was merely paper prepared with a sensitized gelatine-film, which allowed the finished negative to be stripped from the paper-support and then transferred to a gelatine or celluloid base before printing.

"In 1887 Goodwin, a New York clergyman, perfected a celluloid-film and applied for a patent on his discovery. However, it was not granted until 1898, and while it was in the United States Patent Office, the Eastman Kodak Company applied for a similar patent. Cody, of the Blair Camera Company, had already patented, in 1894, the use of the daylight-loading cartridge, and, in 1903, the first celluloid photographic film, with a layer of gelatine on the back to prevent curling, was placed upon the market by Eastman.

"This brings us a considerable distance along the road," Professor Pyro concluded, "and I have no doubt that the remainder of the path will now be a more familiar one to you all."



ZION CANYON, UTAH
GEORGE R. KING

Practical and Humorous Experiences in Photography

Part I. Lenses, Shutters and Cameras

A. H. BEARDSLEY



FOR those who are a little rusty with regard to what a lens really is, let me quote my friend Webster who says that a lens is "a piece of transparent substance having two opposite regular surfaces, both curved, or one curved and one plane, used for changing the direction of rays of light." As a matter of fact a lens can also be some other things best defined verbally. Several times, in my own experience, a lens has changed more than just the direction of rays of light. Most photographic lenses—the above definition notwithstanding—are made of glass and not of any "piece of transparent substance." Moreover, they are made of many kinds of glass and in many definite types of construction. For instance, there are meniscus, meniscus-achromatic, rapid-rectilinear and anastigmat lenses. The type or name that you select has much to do with the price of the camera, but nothing whatever to do with the picture you get—that depends upon you and upon no one or nothing else. Those who consider this statement too pedantic, please read on.

Despite my inherent dislike of publicity with regard to personal matters, I am compelled to admit that not always was it possible for me to rattle off technical lens-names, and know whereof I rattled. At one time, a lens was to me a piece of glass in the front of a black box called a camera; also I was aware that without this piece of glass there could be no picture. With this extensive knowledge at my disposal, I determined to purchase a good lens for my two-dollar box-camera. This decision was reached not because I was obtaining poor pictures, but rather because an advertisement in a photographic magazine made me discontented with my lens-equipment. So determined was I to improve my equipment, that I was willing to spend ten dollars!

The thing that rankles me deeply to this day is not that the photo-salesman informed me that a better lens could not be fitted to my two-dollar camera, but the fact that he actually laughed in my face! The result of this experience was that I learned that my two-dollar camera was equipped with a meniscus lens and that the only improvement I could make within my limit of ten dollars was to purchase a larger camera fitted with a meniscus-achromatic lens. This I did eventually and, at the same time,

increased the up-keep of my equipment dangerously near the breaking-point of my finances.

Several months later, the get-a-better-lens fever attacked me again. Although I did not know what a rapid-rectilinear lens was or why it was better than a meniscus-achromatic, I must have one at all costs. Again I discovered that a better lens could not be fitted to my larger box-camera. I was obliged to purchase a new outfit. This time the camera was a folding-pocket model and it had to be focused—whatever that meant. Then and there I found out why the "cuss" was put in focus. Of all the ingenious contrivances to lead men from the path of verbal virtue, a focusing-camera is without a peer. No matter how beautifully sharp and brilliant the picture appeared in the little glass periscope—finder—of the camera, my pictures were invariably distorted, blurry, unrecognizable and the cause of unlimited public and private "cussing." However, the day arrived finally when I learned to set the focusing-scale for fifteen feet instead of one hundred feet for a snapshot of my dog asleep on the front porch. Likewise I learned that the various stops or openings of the lens were intended to be used, not merely to be referred to, when showing the camera to admiring friends. In short, I discovered that a snapshot made with the lens "stopped" to its smallest opening invariably resulted in a good piece of clear celluloid devoid of any semblance of a picture; also, by using the largest opening in too brilliant sunshine I obtained a striking resemblance to a dark and stormy night with not a soul in sight.

For the third and last time that insidious get-a-better-lens germ tore my photographic happiness asunder. This time I must have an anastigmat lens. Thanks to my experience with the rapid-rectilinear lens I found out why it was superior to the meniscus-achromatic, even if it did have to be focused. Vertical and horizontal lines in my pictures were no longer knock-kneed or barrel-shaped and the sharpness of the image was better. However, toward the edges of my picture a slight unwelcome diffusion—when using the largest opening—often spoiled an otherwise good picture of a telegraph-pole rampaut or the backyard-fence in repose. The manufacturers of the anastigmat lens assured me that all these difficulties would be swept



THE WHITE ROOF

W. E. POTTER

away just as soon as one of their lenses was fitted to my camera. The selection of an anastigmat lens is no child's play, nor is it an undertaking that those of weak heart should attempt. True enough, the matter appears to be simple, very simple. You wish to buy an anastigmat lens, therefore, call at your dealer's and buy one—nothing to it at all. However, wait a moment. Let me ask you a few simple questions. What focal length do you wish? What size plate do you wish to cover at full aperture? With regard to speed, do you wish an F/6.8, F/6.3 or F/4.5? Will you need a symmetrical or convertible anastigmat? What angle of view do you wish to include? Will you use the rising-and-sliding front on your camera? Have you a single, double or triple extension camera-box? What kind of a shutter have you now or what kind will you require? Do you prefer a cemented or uncemented lens? Is the front-board of your camera detachable? What make of lens have you in mind? Do you wish to trade in your present equipment and—well, have you answered these questions? Unless

you are able to do so the lens-salesman will have to use his own judgment. Perhaps, you may find one who knows less about it than you do; in that event, "the truth lies between you: you're both right and both wrong."

In connection with the possibility of a lens-salesman knowing less than the customer, let me disclose a hushed incident of the past. The occasion was a young photo-salesman's first attempt to sell an anastigmat lens. One morning a gentleman entered the store and announced that he was there to buy a new anastigmat equipment for his 3A camera. This was good news, indeed; but how to sell such a lens to the gentleman was beyond the young photo-salesman at that time; however, the proprietor was out and the amount of the sale was too great for him to give up without a struggle. With trembling knees and a sickening feeling about his heart, the salesman awaited the first question.

"Well, young man, what's the best focal length for this 3A camera?" he asked, and shoved the camera toward the salesman across the counter as if his looking at it would help in the least.

"A friend of mine told me that a 6½-inch was better than a 6-inch, what do you think?"

Really, it was immaterial to the photo-salesman which he had. As far as he was concerned, the customer was welcome to either. Well, the photo-salesman had to say something.

"Your friend is quite right," he replied, as if the opinion of the customer's friend and his own coincided because of their superior knowledge—in the same manner that two physicians agree to operate. "Without a doubt the 6½-inch will give you better service in the end."

To his amazement the customer accepted his reply; but forthwith proceeded to hand him a photographic knock-out.

"Will you tell me what F/6.8 or F/6.3 on a lens signifies and the difference between them? I have often wondered, and I made up my mind to ask some one who really knew. No doubt, you can tell me," and the customer settled himself on the counter with a now-I-am-going-to-get-facts expression on his face.

Then and there the embryo photo-salesman had it on the tip of his tongue to ask the customer to excuse him, as he was not enjoying his usual good health. However, the sale must not be lost, so the salesman plunged into an explanation that would have made a strong lens-manufacturer weep as an infant.

"Really, it is all very simple," he began, knowing only too well that it was not. "The mark F/6.8 is a peculiar trade-mark which anastigmat lens-manufacturers use to distinguish their own lenses from those of a cheaper and less satisfactory type. The F in the expression, F/6.8, signifies 'fast'"—somewhere he had heard that an anastigmat was a fast lens—"and the difference between F/6.8 and F/6.3 is that the larger number is the faster lens and vice versa. Of course," he added, "other things enter into an exhaustive explanation, but these are the essential facts."

"Your explanation isn't as complicated as I thought it would be," the customer remarked. The photo-salesman agreed heartily. "Well, here's my camera; put the 6½-inch lens on it as soon as you can and send it up to the house."

Thanks to the friendly co-operation of the proprietor the lens was fitted and the young photo-salesman's first lens-customer was well satisfied. Several years later they met again, and the salesman hastened to set himself right about his explanation of F/6.8 and F/6.3 which had won the day when neither of them knew what the other was talking about.

To return to the anastigmat lens—I bought one. For two or three days, while it was being fitted to my camera, I worked, ate and slept with

a lens-catalog at my side. At the end of three days I could speak of radial and tangential astigmatism, chromatic and spherical aberration, curvature of field, distortion, circle of least confusion, flare-spots, internal reflections and other properties of lenses as if I had always lived in a lens-factory. However, knowing the terms has nothing whatsoever to do with getting good pictures. This truism I learned after great mental and financial effort. Moreover, another fact to remember is that the cost of a lens has no relation to the results you obtain with it. The deciding factor—whether you pay two dollars or two hundred—is *you!*

The day that I received my new F/4.5 anastigmat is one long to be remembered. For months—yes, years—I had hoped and saved for this day of photographic days. I could not get home fast enough. At length, safe from interruption in my room, I sat down with the new outfit in my lap. For nearly twenty minutes I sat there and looked at the concrete evidence that my fondest photographic hopes had been realized. Then I began to get curious. I unscrewed the front lens and held it up to the light. Horrors! there were two bubbles in the glass. Bitter disappointment quickly gave place to rage. Without a doubt, I had been systematically deceived because of my ignorance of anastigmat lenses. I hurried to the telephone and poured out my anger on the proprietor of the photo-supply store. Finally, when I was entirely out of breath, the proprietor got his first opportunity.

"Wait a moment, hold on," he said somewhat brusquely, "we did not deceive you, nor did we take advantage of you. If you will refer to any standard lens-catalog you will learn that small air-bubbles often appear in the most expensive anastigmat lenses. These bubbles are *not defects*. The best optical glass in the world cannot be made wholly free of bubbles. As a matter of fact, air-bubbles are more of a proof of merit than a defect in a lens. They have no appreciable result on its effectiveness. You will find that I am right—Goodbye!" Bang went the telephone-receiver. Sheepishly I returned to my room and picked up the first lens-catalog I could find. Sure enough, there it was in black and white. With all my reading and study of terms I had overlooked a highly important fact.

At length, I regained my composure and proceeded with the inspection. I found no more real or fancied trouble. The next thing was to make some pictures. Eagerly I filled three double plateholders and hurried to a nearby park. There I made six exposures and to each one I applied all that I knew about focusing, adjusting the iris-diaphragm of the lens and set-



DOUGLAS FIR-TREE.
D. W. ROSS

ting the speed of the shutter. Thanks to my experience with the rapid rectilinear lens, I knew something of how to manipulate my new lens to the best advantage. To make a long story short, my six exposures came out passably well—much to my amazement and delight. However, I realized that an F/4.5 anastigmat lens is like a ninety-horse-power roadster—you have the power, but it is not always wise to use it to the limit. Never use a fast anastigmat lens at its largest aperture unless absence of light or a fast moving object requires it. Treat the speed of your lens as a source of reserve power. It cost me much disappointment and money to find this out. There is virtually little depth of focus with an F/4.5 anastigmat unless used at the medium stops, such as F/8 or F/16. I almost called up the proprietor of the photo-supply store again on this point, when I discovered that with speed I did not get depth of focus and that with depth of focus I did not

get speed. Take your choice; it is one or the other—there is no compromise short of the use of small stops and careful focusing. However, F/4.5 lenses as used on vest-pocket cameras show very satisfactory depth of focus. I learned the truth of the following lens-facts. Use your anastigmat just as you would your old rapid rectilinear lens until you have mastered the rudiments of its manipulation and its eccentricities. Do not for a moment think that your lens-troubles are over. A fifty-dollar lens can be possessed of more “cussedness” than a balky gas-engine on a cold morning. Make up your mind at the start that you know absolutely nothing about your new anastigmat lens. Resolve that you will begin at the very bottom of the lens-ladder to creep up, step by step, until you do know all there is to know about *your own lens*—then, you will become a consistent maker of good pictures.

(To be continued.)

Tulle as a Diffusing-Means in Enlarging

REV. H. O. FENTON



HE use of chiffon, in place of bolting-silk, to obtain diffusion in enlarging, has so much merit, that a description may be welcome. Some cardboard is procured and cut into squares,—four inches, let us say. Out of the centers of these a square is cut of three inches, thus giving a rim $4 \times 4\frac{1}{2}$ inches wide. A number of these will be required. Cardboard is the easiest material to use for these; but it would be better if they could be cut out of three-ply or fretwood with a fretsaw. Some tulle is bought, black or white, or some of both. Then the glue-pot is made ready. One of the rims, or frames, is put flat on a board or piece of cardboard, and one thickness of the tulle is stretched tightly over it and kept in position by pins driven into the board, but clear of the frame. A second frame is then taken, one side is covered with glue, and that side put down squarely on the first frame. A weight is put on for a few minutes to allow the glue to harden. We have now one thickness of tulle imprisoned between a pair of frames. The outlying tulle is trimmed off; and the performance repeated, by again stretching the tulle over the frame just made, and again applying a gluey frame. Thus we have two pieces of tulle mounted suitably and separated by the thickness of one piece of card-

board. If three-ply is used, there is a greater separation, owing to its thickness. This is no disadvantage. It is obvious that we can mount four or six pieces of tulle in the same way. These frames are interposed between the lens and the bromide paper during enlargement.

One way to do this is to bore holes through the frames and thread them on a knitting-needle, the latter being driven into the top of the lens panel. Another way is to put them into the bellows behind the lens. I saw this varied once by a man who built a small box between the bellows and the lens. This box had a light-tight lid, and just accommodated the frames, which were made sufficiently small for the purpose. He also used this arrangement when making portraits, and the effect was excellent. White tulle seems to give more diffusion than black.

The use of tulle, of course, increases the exposure. It will be found fairly correct to multiply the normal exposure without tulle by half the number of thicknesses of tulle used. Thus, if the normal exposure were ten seconds, with four pieces of tulle the exposure would be $10 \times 4 \div 2 = 20$ seconds. It is noticeable that the use of tulle in the case of portraits, particularly, renders retouching almost unnecessary, and it is wonderfully helpful in breaking up deep masses of shadow.—*Amateur Photographer.*



CORINTHIAN ADAPTED TO RESIDENCE

EDWARD LEE HARRISON

Architectural Traditions for the Photographer

The Greek and Roman Orders

EDWARD LEE HARRISON

THE famed Roman architect, Vitruvius, was wont to assert that the true artist should possess the theory of all professions, but the practice only of his own. The successful photographer, also, must command a wide diversity of knowledge, not the least of whose ramifications might extend into the realm of ancient and modern architecture.

The foundation of modern architectural design is, of course, the classic Greek and Roman orders of architecture. The Egyptian, the Assyrian, the Saracen and the Norman have all had their say; yet the chief influence is classic, and it is doubtful whether modern skill may suffice to equal the temples which for centuries have been the admiration of the world.

Gazing back through the shadowy centuries we may still see them and marvel—pile upon pile, temple upon temple—built with sweat and laughter and tears, as the genius of man slowly drove forward toward the beautiful and the sublime. The temple of Diana at Ephesus was

reckoned among the Seven Wonders of the World. The Temple of Zeus and the Parthenon, The Arch of Titus and the Colosseum—these remain to-day and will remain for all time, beacons for the world of Art.

From the original wooden post and lintel, embellished at length with cap and base, cut from the same log as the column, the Greek artisans gradually evolved the Doric column and entablature, whose substantial appearance was so well fitted to the rugged granite of which they were built by the artisans of old.

The Ionic and Corinthian orders were of much later origin, but were immensely popular in Athens, Thebes and Corinth, at the zenith of their power. There is a legend concerning the origin of the Ionic capital, and consequent development of a new order, which may be of interest.

Chersiphron, a famous architect of the sixth century B.C., exploiting the design for a mighty temple to Zeus before a committee of Athenians, found them coldly unresponsive to the Doric design that he had conceived. Seeing his com-



CLASSIC FAÇADE

EDWARD LEE HARRISON

mission in danger, the clever architect cast his roll of parchment over the model of the column capital, forming a rude effect of the voluted Ionic style as it is seen to-day. The conception pleased the judges, and the first Ionic temple was the result.

A similar legend is related concerning the Corinthian order, in which Ictinus, a very famous architect of Corinth, struck by the beauty of the leaves twining around the bell of a vase he had overturned into an acanthus-bush, modeled therefrom a new order.

The chief excellence of the Greek orders undoubtedly resides in their exquisite proportions, supplemented by the beauty of the cast shadows, which the brilliant Attic sunlight rendered most vividly. Color was also used freely to amplify and to refine the designs.

It is said that the great English painter

Turner sat for hours gazing over the sun-bathed hills at the ruins of the Acropolis, and that he would not paint the scene, declaring the task beyond him.

If the temples of the gods, lying cold and dead upon the deserted hills of their departed glory, still retain power to so thrill the souls of men, what must have been their grandeur in that day, when they blazed with light and color before the eyes of an adoring nation!

The great similarity between the Roman orders and the Greek is a matter of no astonishment to any who have followed Roman history closely. The Roman genius was peculiar unto itself—in the power of acquisition. It surpassed that of all other nations. And so it was that, having no national architecture of his own, the Roman builder frankly and cheerfully borrowed that of his more studious Grecian neighbor, with a



GRECIAN IONIC CAPITALS EDWARD LEE HARRISON

number of modifications, few of them much for the better.

It is characteristic of the Roman arrogance that, in the end, their architects seized upon the two most beautiful Greek orders, the Ionic and the Corinthian, and combined them in the flamboyant and entirely characteristically pompous order known as the Composite. This order has through sheer lack of merit gradually fallen into disuse, and is now seldom seen.

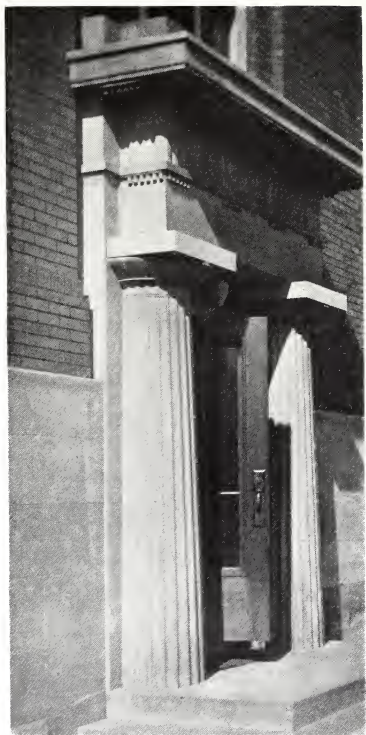
The real power of the Roman genius was expended upon structural rather than architectural design—that is, the Roman mind was more concerned with the strength of the building than with its appearance. The Roman developed the arch—he invented hydraulic cement and made use of the vaulted dome. He was an engineer, if you will, but he was also an artist,

in his own way. The triumphal arches and the public baths of Rome have never been surpassed.

It is of prime importance that the photographer recognize the great value of cast shadows in the portrayal of Greek and Roman architecture. If these are neglected, in many cases the chief characteristics of the design are lost, and no eye accustomed to judge buildings will be satisfied with the results produced by carelessness in this most important respect.

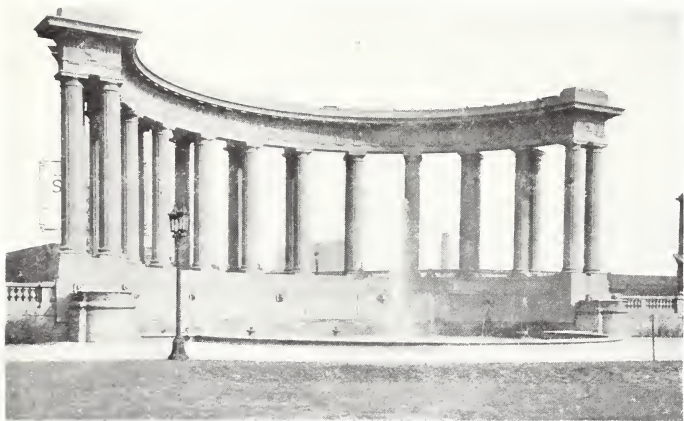
This should not be construed to mean that no classic façade can be rendered except in full sunlight. Many beautiful studies have been made in soft lights, in silhouette and even in the rain; but an architecture designed primarily for a sunny setting, cannot be interpreted with general success without cast shadows.

Many things the pictorial artist need not



GRECIAN DORIC
EDWARD LEE HARRISON





ROMAN DORIC STYLE

EDWARD LEE HARRISON

master. He may appreciate, without fully entering into, the various refinements practiced by the ancient builders. Many of these are lost. The aesthetic eye which could attach supreme importance to an almost imperceptible curve in the cornice of a mighty temple, or an increase of a finger's breadth in the center span of a vast colonnade, is indeed beyond the comprehension of many of our modern builders.

Nevertheless, a brief study of the essential characteristics of the various styles cannot fail to lend keener insight into methods of portrayal. And better methods are followed by more artistic pictures, greater enthusiasm and more enduring success.

As to details of finishing, the individual taste of the artist must guide. One of the best things in a recent photographic exhibit was an immense sepia enlargement of a railroad-station, designed in the Roman Doric order. The warm tones of the picture rendered the lights and crisp shadows of the style even better than if color had been employed. On the other hand, the star-picture in a recent Autochrome exhibit was a dainty Greek Corinthian residence in a sunny classic garden setting. The building fitted into the landscape like a beautiful cameo; color, sunlight and shadow were absolutely essential to the success of the picture.

Many architects prefer a uniform gray or sepia

finish for all their pictures, but one of the best designers in a large metropolitan office said last year that he "always looked for color in the classics." The feeling is there. The desire for sunlight is inherent in the work created among the brilliant hills of Greece and Rome. And when the circumstances permit, color should be introduced, especially among the lighter types of architecture, such as residences and theaters. Obviously, all coloring should be done with judgment and skill for it is vitally important to the photographic and artistic success of the architectural picture. Tinted enlargements are coming more and more into favor among the architects, landscape-gardeners and other designers; and nowhere are they so pleasing as in classic architecture.



Desirable Qualities in a Landscape

THE critics of landscape usually give to the scene represented such qualities as are suitable to walk in, suitable or pleasant to look at, suitable to ramble in, and suitable to live in. The *sansui* (landscape) that is supreme combines the four qualities. However, if it should be that only a part can be given, then that which is suitable to live in and to ramble in is preferable.

Kuo Hsi,



FATHER AND MOTHER

H. A. ROBINSON

The Citizen-Owner of a Camera in War-Times

LOUIS F. BUCHER

BY this time, most people realize the important part that is being played in the war by the camera which for many years has been used by young and old—men and women—as a hobby or pastime. This war has developed the use of the camera to record the movements of the enemy, the progress being made in the construction of ships, cantonments, munition-plants and patriotic movements. And do you suppose that the Government would allow statements to be made of the awful devastation and ruin—not to speak of the many other horrors that have been committed—if it were not in possession of ample and undisputable proof in the form of photographs? It is no secret that almost the first persons to enter a town retaken from the enemy are the photographers, whose duty it is to record the ruins for the official files. But the use of a camera to help win the war is so well known that it is hardly necessary to go deeply into the subject, other than to use it as a contrast to what follows.

The citizen-owner of a camera could possibly be called the holder of a "slacker-camera," were it not for the fact that this is not so—at least not in Newark, N. J., or vicinity. Later on, this statement will hold good throughout the United States, I hope, when the people grasp the value of the work explained in the following para-

graphs. Mr. Don Sheppard Gates, City-Wide Secretary of the Newark Y. M. C. A., some weeks ago approached the writer and Mr. Julius F. Graether—both members of the Newark Camera Club—with the proposition to organize a RED TRIANGLE CAMERA CLUB, the object of which would be to send "a photograph of home to every soldier overseas." After discussing the matter, pro and con, it was decided that the project should be taken in hand by the Newark Camera Club, which appointed a Committee composed of three members to be known as the Central Committee.

The organization was started with fifteen members of our own club and with the assistance of the newspapers, dealers and department-stores we soon had seventy members, all of whom had volunteered to give their services at least one day a month, to cover the assignments given them. We obtained our information, as to what soldiers from Newark and vicinity were overseas, from many different sources. Our volunteer photographers were then furnished with a credential-card, and about seven or eight names and home-addresses of soldiers who were known to be overseas, in order that they could call upon their parents and make a picture of the home-folks, just as they happened to be when our member called, mind you, and not all dressed up as they would be for a professional

photographer. Then the picture would be sent to the son, brother or husband—as it happened to be—together with a letter of cheer written on paper furnished by the Central Committee.

If you wish to obtain the full meaning of this work and its value, just close your eyes and imagine yourself three thousand miles from home with all water between you and the loved ones. You go to the American Post Office No. 709 and in your mail you find an envelope addressed correctly to you, but in a handwriting unknown. Your curiosity is aroused and you wonder whom the letter is from. Imagine, again, the amazement and satisfaction when you find a picture of mother in an old house-dress and apron! You know at once that she has been washing dishes, the very ones from which you once ate such good things and which you now long for, despite the quality and quantity given you by your Uncle Sam. And here's a letter, too; why, I don't know him; gee, he's a good fellow to do that. I never saw a picture like that of mother before. Looks like her—and she is evidently well, too—yes, he says she is. Just then the bugle blows and you open your eyes, and sticking the letter and picture in your pocket for future reading and sight, you go off briskly, knowing full well why five million brothers are with you in making the world a decent place to live in.

And don't think for a moment that it is all honey and sugar, acting as a member of the Red Triangle Camera Club. In fact, in covering some cases myself, in order to get color and know what could be expected, I often wondered whether I had a soft heart, or whether the cases I came across were as pathetic as they appeared. I believe that they were. For instance: at one house where I called, an old lady answered the bell and, as I explained that the work I was doing was for the Y. M. C. A., tears came to her eyes. She insisted upon my coming in and read a letter just received from her grandson who was in France. It seems that the boy had been rather listless and a so-called "high flyer," and the tone of his letter, in which he praised the Red Cross and Y. M. C. A. work, was such as to imply that the greatness of life had been brought home to him by the war and when he got back to "God's Country," as he called it, he was never going to hit the high spots again. The straight and narrow for him and, as the grandmother said, she "always knew that John was a good boy, and that proves it."

One of the great difficulties encountered by our representatives was in dealing with those in quarters populated largely with foreigners, who, although interpreters were along, seemed to think



THE SERGEANT'S FAMILY

W. COMPTON

that we were out for the Government to get pictures of their husbands so they could not escape the draft. But even this does not deter our members; for wherever possible, when we are in possession of the military address, pictures familiar to the soldier or scenes about the city are sent him in the usual way. Later on, the Newark Camera Club intends to send other pictures to all soldiers for whom we have a military overseas address. From this you will readily see the good work that can be done by the citizen-owner of a camera in war-times, and we hope that other clubs, as well as individuals, will undertake this worthy work in their own town, and I shall be pleased to give full details as to method of procedure of those who are interested sufficiently to write me.

This letter is sent to prospective members:—

Dear Sir:—

We all of us feel that we would like to do something toward the welfare of "Our Boys" in the Service, but have been at a loss as to just what we were best fitted for in the existing circumstances. The opportunity now comes to every amateur photographer, and you, as well as I, can do our bit in this way. Offer your services as a photographer to the RED TRIANGLE CAMERA CLUB, which is being managed by the NEWARK



THE LIEUTENANT'S SON

J. F. GRAETHER

CAMERA CLUB, under the auspices of the Y. M. C. A. As a volunteer, you will be furnished with proper credentials, and assigned to the homes of some of our boys in the Service of Humanity, where you will take pains to inquire the military address of the man under arms. You will then proceed to make a snapshot of his parents, sisters, or brothers, or some other picture that will appeal to the soldier in the trenches.

After you have made the pictures, you will then see that TWO prints are made, and in no case are pictures to be larger than $3\frac{1}{4} \times 5\frac{1}{2}$ inches. Send one to the man in service, together with a short letter on paper furnished by the Central Committee. Forward the other print to the Central Committee, writing plainly on the back, the name and address of the boy to whom photo is sent, with your own name and address.

You can imagine no pleasure greater to a man "Over There" than to receive such a letter together with a picture of home. The object is to bring the home in touch with the man overseas. You can help and the cost to you will be very small in comparison with the pleasure and satisfaction derived by you. We want your services as an amateur photographer and can assure you that we will lend you all the aid in our power to bring about the desired result.

The happiness and welfare of our soldiers is our first duty. We know you are not going to see them want for a picture of the home-folks and, therefore, await with pleasure the offer of your assistance.

Very truly yours,

This is sent to members with their first assignment:—

SUGGESTIONS.

Go to the homes assigned you on enclosed cards.

Best time to interview families with foreign names, Sunday morning or afternoon. American families, any afternoon.

Do not cover any foreign names without the aid of an interpreter. Get in touch with interpreter we suggest and arrange for appointment. If this is impossible, secure the aid of an interpreter in the district you are working.

EXPLAIN YOUR PURPOSE FULLY, emphasizing the fact that it is all done *free of charge*, as most families will take you for a commercial photographer. Show your identification-card.

Ask for the boy's military address. Make picture of mother, father, sister or brother. If they refuse to have their picture made and you have received the boy's address, make a picture of the home or some familiar scene.

Do not spend too much time with one family. If they refuse to give the boy's address after the plan has been thoroughly explained to them, go to your next assignment.

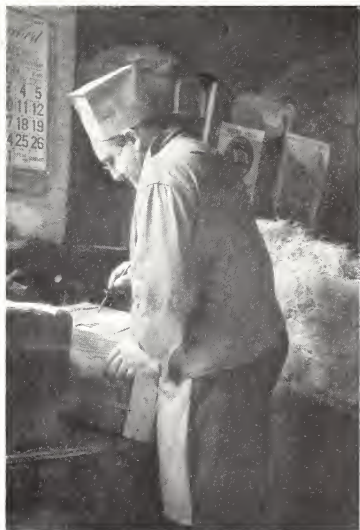
After you have covered all of your assignments, mail your pictures to the boys at the front, together with a letter written on stationery furnished you.

Return your cards to the Central Committee, giving information on each case, together with a print of every picture made, giving soldier's military address.



IN looking through some portrait-negatives which had been made with the camera facing the light, we were rather astonished that they were all more or less foggy. They printed fairly well, but slowly, and certainly did not give as full a scale of tones as if the fog had been absent. In remarking upon this, the operator said that "it was a pity the 'Rembrandt' negatives always came like that." A suggestion that he should shade the lens was met by the reply that, if he did that, he altered the lighting. This, we pointed out, was quite a wrong idea, as the shading could all be done between the sitter and the lens, so that the lighting was in no way interfered with. The best way to do this is to use an ordinary circular head-screen, which may be covered temporarily with dark material, and to place this in such a position between lens and sitters that, when the eye is in front of the lens, the observer cannot see the source of illumination. This result can be obtained easily without interfering with the view of the sitter; but to make sure of this a final glance should be given at the focusing-screen. The ordinary lens-hood or canopy is not sufficient, as it moves with the lens. What is needed is a movable screen, which can be so placed that it shades off the window, and its image just clears the edge of the plate.

The British Journal.



FATHER AT WORK, A. M. PLATT
FATHER AND SISTER, LOUIS F. BUCKER



Frederick B. Hodges

The Curve in the Road

FREDERICK B. HODGES

NO CROWDING, fevered throngs come here; yet, with the soft voices of earth and sky calling us, the beckoning hand of the swerving road enticing us, here is infinite wealth.

Ah, road of gold, like an open door into a world of promise, like a glimpse into the treasure-chambers of God. The city-street, the road of town, leave no such touch of joy as that which stirs our heart at this bend of the woodland-road.

It is a path spread with beautiful messages that possess for us both material and spiritual healing. Here the winds are clean and their music wild, and here, because of this revelation, courses a richer stream of love in our hearts.



EDITORIAL



A Photographic Society of America

IT is refreshing to see renewed activity among our camera-clubs, several of which have enlarged the field of their usefulness in their respective communities by engaging in certain kinds of war-work which they are eminently fitted to perform. Witness the patriotic and successful campaign of home-portraiture among the families of Americans who are at present performing military service in far-off Europe, that is being conducted by the members of the Newark Camera Club. The fact that camera-clubs can initiate new and appropriate enterprises, and thus take on new life and increased usefulness, should act as a stimulus to some of our photographic Salons, whose one-sided activity, year after year, invites monotony and decline of interest, which, in turn, is likely to result in premature death. Why not follow the lead of an energetic and far-sighted camera-club and unfurl a sail that will propel the photographic craft more swiftly on the sea of useful activity? There is the Royal Photographic Society of Great Britain, which has held, recently, its thirty-third annual exhibition which extended over a period of six weeks. The continued, splendid success of this time-honored institution is due chiefly to the character of its scope, which, unlike that of the American Salons, is not confined to the display of pictorial photographs, but is extended to include scientific and technical branches of photography—color-photography, radiography, photo-micrography, transparencies, natural history, physiology, astronomical photography, war-photographs, and the photographic industries. An exhibition of this character is not only entertaining, insofar as it gratifies the artistic sense, but highly instructive and illuminating, and, in the degree that it represents diverse interests, it makes an appeal to the general public and attracts a larger attendance than it otherwise would. Persons who are not interested, particularly, in pictorial photography, but in work that represents the application of the camera in the fields of animal-life, botany, astronomy, mineralogy, and photography in natural colors, whether on glass or on paper, find in the exhibitions of the Royal Photographic Society much to interest them. Photographers, professionals and amateurs, eager to see the latest improvements in apparatus, materials and processes, will visit with

profit the industrial sections of such an exhibition. Another attractive feature of this annual event is a series of fourteen or more lantern-lectures on popular and scientific subjects, the speakers being men of distinguished authority. In a word, it is a photographic exhibition that is broad and comprehensive in its scope, and owes its prestige to the successful management of its affairs by men of acknowledged ability, reputation and influence. No wonder that it enjoys universal confidence and the support of an appreciative public.

There are numerous practical benefits that accrue to the industrial exhibitors that should not be overlooked. The fact that a photograph is hung in this exhibition, whether in the pictorial section or in a scientific or technical one—it makes no difference—is a recognized honor to the maker of the print. If of exceptional technical merit, such a picture naturally reflects credit upon the particular make of apparatus or material used in its production, seeing which, the manufacturer who is represented in the trade-section of the exhibition is eager to utilize it to his advantage. For instance, visitors to the headquarters of a certain dry-plate-manufacturer will be told that the much-admired color-values in Mr. So-and-so's "Meadow at Somerset" are due to the particular excellence of his new "Special Orthochrom Plate." Then, the manufacturer or agent of the printing-medium used in making this particular print, dwelling upon the qualities that characterize his specialty and which are so pleasingly and convincingly displayed in the "Meadow at Somerset," will claim his share of credit. He, too, is just as proud of that picture as if he, himself, had made it. If, perchance, the manufacturer's product does not happen to enjoy constant, unflinching notoriety, such an unexpected, but, nevertheless, authoritative endorsement of the merits of his product will be of inestimable benefit to him, indeed, a form of publicity greatly to be desired—an ideal advertisement.

In view of the success that marks the annual exhibitions of the Royal Photographic Society, would it not be a good idea if the executive boards of the American Salons considered the adoption of some of the features of that distinguished institution? Perhaps, if one of the several Salons in the United States were to introduce such an innovation, selecting as its officers men of known ability, character and influence, and forming an organization with adequate capital and strong enough to command the confidence and respect of the photographic world, the question of the much-talked-of American Academy of Photography would come near being answered.



ADVANCED COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.

Prizes

First Prize: Value \$10.00.

Second Prize: Value \$5.00.

Third Prize: Value \$2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, **but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.** Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.*

4. *Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print exactly for what competition it is intended.*

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with double thicknesses of **stiff** corrugated board, not the flexible kind—or with thin wood-veneer. Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—Architectural Subjects

Closed October 31, 1918

First Prize: E. M. Pratt.

Second Prize: Milton M. Bitter.

Third Prize: Leopold Zwarg.

Honorable Mention: A. Adams, W. G. Adams, Carl G. Brown, H. G. Cleveland, Chas. Donn, S. H. Gottscho, Stephen Marsh, Emmett L. Miller, F. W. G. Mochus, F. Y. Ogasawara, Maude Paget, J. Herbert Saunders, Joseph Coburn Smith, Alice E. Souther, James Thomson.

Subjects for Competition—1918

"Indoor-Genres." Closes December 31.

1919

"The Spirit of Christmas." Closes January 31.

"Still-Life." Closes February 28.

"The Spirit of Winter." Closes March 31.

"Rainy-Day Pictures." Closes April 30.

"Miscellaneous." Closes May 31.

"The Spirit of Spring." Closes June 30.

"Landscapes with Figures." Closes July 31.

"Shore-Scenes." Closes August 31.

"Outdoor-Genres." Closes September 30.

"Architectural Subjects." Closes October 31.

"Domestic Pets." Closes November 30.



Photo-Era Prize-Cup

In deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize (\$10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.

Two Helpful Hints

GRAFLEX-USERS who often are compelled to use the "open" shutter will find a small weight placed on top in front of the hood handy to overcome the jar of the rising mirror, thus preventing a double image.

Anateurs who remove prints from warm hypo or sepia-baths to cold or hard running water, will find that squeezing prints, while wet—first between two blotters—is a good way to save the blistered prints.

J. A. WHITECAR.



CALIFORNIA STATE CAPITOL

E. M. PRATT

FIRST PRIZE — ARCHITECTURAL SUBJECTS

Advanced Competition—Still Life Closes February 28, 1918

IN one sense, still-life photography is easy; in another, it is supremely difficult. Because the subjects are inanimate, the task appears to be very simple. However, it is not their motionless character alone that must be dealt with, but their color and artistic arrangement—in these lies the difficulty. Our still-life competition of a year ago was an unqualified success. Many exceptionally artistic pictures were submitted. It will be well worth the time and effort of every participant to look up his May, 1918, *PHOTO-ERA* in order to study the successful three still-life pictures on pages 257-260 inclusive. Particular attention should be paid to Mrs. Fannie T. Cassidy's remarkably fine study, "Your World as You Make It," as a striking example of originality in composition and lighting. In Mr. J. W. Newton's "The Spirit of Helpfulness," we have an appeal that cannot be denied. Mr. H. R. Decker's "Fruit" is a conventional subject treated in an original and technically perfect manner. With these three excellent examples before him, the camerist should be able to understand clearly that record-photographs are not desired and that they will find small favor with the jury. At the outset, let every contestant realize fully that successful still-life photography demands skill, invention and study.

For some unaccountable reason, the mere mention of still-life photography causes the average camerist to visualize a vase filled with flowers or a basket of fruit. It does not seem to occur to many that a pair of overalls, a dinner-pail and a box of tools might be made into a picture of artistic interest. The great trouble seems to be that the average camerist loses himself in a nebular maze of artistic aspirations, instead of staying on earth with the rest of us to portray that which is part of his life and our own. Virtually, the entire success of a still-life picture depends upon its artistic appeal. More often than not, it is the elevation of something humble to the sublime that gives it the strongest interest. We may marvel at the artistic interpretation of this or that fancy of the artist; but the picture that arouses our emotions is the one that is nearest our daily lives.

The technical side of the subject under consideration should prove to be as attractive as the subject itself. In order to produce true values, it will be necessary to master the use of a suitable plate or film in connection with the proper ray-filter. The advent of the panchromatic plate has enabled the camerist to obtain marvelous results in monochrome. Of course, some subjects will require no special technical treatment; but others will test the camerist's photographic skill to the uttermost. The matter of lighting is a study in itself. Some subjects cannot be made by flashlight;

others require combined daylight and flashlight or gas and electric-light; and still others daylight only. The background should receive particular attention, as it is imperative that the eye should rest on the subject undisturbed by distortion or incongruous accessories. It should be remembered that the surroundings must harmonize with the thought and subject; No matter how beautiful the idea may be, if an incongruous accessory is introduced, the finished result is disappointing—the spell is broken.

Still-life subjects are legion. Think of the hundreds of things in your daily home and business-life. There are infinite possibilities in the selection and portrayal of the tools used by the carpenter, plumber, painter and mason. Among professional men, writers, artists, physicians, musicians and sculptors use the "tools" of their trade just as truly and skilfully as the carpenter or plumber. The goal to be attained is to arrange these various "tools" so that they "live, move and have their being" in a true, inspiring and beautiful visualized thought.

At present, many timely and appropriate subjects may be found by the aid of soldiers, sailors and war-workers. Doubtless, many of the veterans will bring trophies or souvenirs of one kind or another that could be used to advantage in a still-life picture. Likewise, many war-workers may be counted upon to co-operate in the making of a picture for this competition. Obviously, nothing of a gruesome nature would find favor; but any combination of trophies or souvenirs that might in a measure depict the stirring events of the last four years would be welcome from a pictorial and historical point of view. A still-life picture that portrays any part of the Great War is worthy of the camerist's best effort. Never, again, will such a subject be as fresh and filled with spontaneity as now. Moreover, in a few short years it will be no easy matter to obtain the co-operation of our veterans, for many of the trophies and souvenirs will become lost or will be packed away beyond the reach of the camerist. In short, now is the time to make the most of present opportunities all around us.

It should be evident that the hackneyed theme of flowers in a vase or an overturned basket of fruit will not be welcome in this competition. However, despite the thousands of variations now so well known, there are cases where a camerist has actually hit upon an original treatment of this time-worn subject. If any participant is convinced that he has a flower-picture that is strikingly original, let him send it, by all means. Often, it is fully as creditable to evolve something original out of threadbare material as it is to produce something entirely new. Six persons never see the same object in exactly the same manner. Hence, some enterprising camerist may see a vase filled with flowers in such a new and beautiful light, that we will all be amazed at our own lack of perception.

One of the most illuminating articles on still-life photography that has appeared in PHOTO-ERA is, "Making the Still-Life Picture," by W. R. Bradford, in the January, 1918, issue. Every participant will do well to re-read this article by a man who knows whereof he writes. Many of Mr. Bradford's pictures have appeared in the pages of PHOTO-ERA and all are admirable examples of still-life photography. It will be noted that he employs "properties" that are at hand or readily obtainable. Moreover, he does not let us guess at the identity of a single accessory, and for this very reason his still-life pictures make a strong appeal and because they portray bits of life of which we have actual knowledge. The camerist may think that the results obtained do not parallel the difficulties of land-

scape or genre-photography; but let him try it! He will find that the making of a good still-life is eminently worthy his very best technical and artistic knowledge.

It is to be hoped that the still-life, competition of 1919 will prove to be at least as successful as the one of a year ago. From the evident enthusiasm displayed at that time, it would seem that there are many camerists who know how to produce prize-winning still-life pictures. We hope that these, and all readers of PHOTO-ERA, will utilize the long winter-evenings and other spare moments to good advantage. Participants should know that the jury is just as eager to award a prize or honorable mention as the contestant is eager to receive it. Now, in popular parlance, "go to it!"

A. H. B.

Another Glass-Mystery

A WRITER in the *British Journal of Photography*, quoted in the August PHOTO-ERA, tells of a mysterious latent image in the glass of old negatives which is likely to re-appear after they have been thoroughly cleaned and re-coated. This image re-appears even more frequently if the glass is to be used for silvering.

In a slightly different connection, I have been mystified several times by the luminous appearance of the glass-graduate in which I keep the developer for Autochrome plates. It is my practice to switch off the darkroom-light whenever possible during the progress of development. I use a Wratten and Wainwright green safelight for this work. Suddenly, in absolute darkness, I will notice the eight-ounce graduate standing out just as if the green safelight were shining upon it. The first time this happened, I thought I had forgotten to turn off the light. The graduate always stands about eighteen inches directly in front of the darkroom-light, and the luminosity is always on the side toward the—extinguished—safelight. The luminosity extends to the top of the graduate where it appears strongest on account of the flared top; there are never over three or four ounces of the developer in the graduate at a time. I use the metoquinone stock-solution prepared by the makers, and, of course, it is always poured back into the graduate to be used for re-development later.

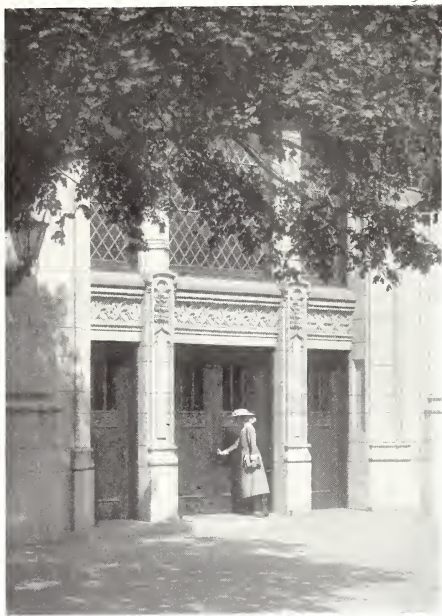
The same phenomenon has also occurred when I was developing the Wratten and Wainwright Panchromatic plates by the same safelight, using pyro-soda developer. In this case a jelly-glass also showed the luminescence; for several years I had used the glass exclusively for pyro developer, and it contained used developer at the time. As in the case of the graduate, the phosphorescent glow was on the side toward the safelight.

Apparently the green light is a contributing cause, but not the only one, as none of the other bottles or glasses standing near showed the least effect. As the stock-solutions in the bottles were apparently innocent, it is probably safe to say that developer that has been used on a panchromatic emulsion is a second cause. If the same dye or chemical not used for ordinary or orthochromatic plates, is used in the making of the Autochrome and the Panchromatic plate, this may be the cause we are seeking. Possibly the chemical stores up light-energy from the safelight; but why does the glass glow except in parts that may have been wet by the solution? The luminescence soon disappears; and there seems to be no definite law for its appearance. This climate—California—too, is peculiarly free of electrical conditions of the atmosphere.

WINN W. DAVIDSON.

According to Dr. Precht, the phenomenon of Phosphorescence is explained as follows: (1) The alkaline

SECOND PRIZE
ARCHITECTURAL SUBJECTS



THE GATEWAY OF KNOWLEDGE

MILTON M. BITTER

pyrogallic acid solution liberates oxygen on the addition of acids, by which the sodium sulphite is oxidized to sulphate, this oxidation being accompanied by phosphorescence. (2) The acid pyro-solution suddenly takes up oxygen on the addition of sodium sulphite and soda, and also this oxidation is accompanied by phosphorescence. Thus, easily reducible substances produce phosphorescence with any strong alkaline pyro-solution.

Potassium permanganate, for instance, is phosphorescent when a mixture of pyrogallic acid and soda is added to it. It is assumed that an intermediary product is formed of alkaline pyro-solution and oxygen, which gives off again the oxygen only on the addition of acid, and that the then liberated oxygen gives rise to phosphorescence by combining itself with the sulphite to form sulphate. Phosphorescence is apt to fog gelatine-plates, should they retain traces of the pyro-developer. Therefore, in practice, such plates should not pass from the pyro-developer into a solution of alum or of citric acid, or, indeed, to any other solution, before the last traces of the developer have been removed from it by careful washing. Very small quantities of pyro, less than .005 per cent are sufficient in some cases to cause a phosphorescence of the film.—[Editor.]

The Value of Process-Plates

MANY photographers are, to our mind, not sufficiently familiar with what may be termed the special brands of plates designed to give superior results in certain classes of work. Among these may be mentioned the slow or process plate; which, quite apart from the special kind of work for which it is intended, has great advantages to offer in certain other branches. These plates will give great density, perfectly clean shadows, and have a great latitude in exposure. For line-drawings, the process-plate is virtually the only one that will give satisfaction, despite the idea of so many workers that an ordinary rapid plate may be made to serve if the negative is subsequently intensified; but one trial will be sufficient to convince even the most prejudiced worker on this point. When we have to make a plucky negative from one that is feeble and lacking in contrast, the slow or process plate will give us a much better result even without the subsequent intensification of the new negative than if one of the more rapid plates were employed and this is superior to attempting any intensification of the original, especially if we are not sure that this has been fixed perfectly and washed thoroughly. For the pur-



CITY HALL, PHILADELPHIA LEOPOLD ZWARG

pose of reproducing a weak negative by contact or by means of the camera-transparency, a very vigorous result may be obtained by using a process-plate, both for the transparency as well as for the second negative. This, however, by no means exhausts the uses of the process-plate. On one occasion we were commissioned to photograph a block of new offices in a crowded street, and a wish was expressed that no indications of traffic or human figures should be in evidence in the prints; the place was visited at various times of the day, but always without finding the particular quarter deserted.

The difficulty was solved very simply in the following manner. A process-plate was employed, having a speed of about 25H. and D. The lens was stopped down to $F/4.5$, and a three-time filter put on the lens. As the plates were not sensitive to yellow, this was reckoned at about twenty times, a former test being used as the basis for this. With a diffused light, an exposure of several minutes was given, and the resulting negative showed no sign, whatever, of the passing traffic in the street, and was satisfactory, in every way. It has been said that photographers, as a whole, pay too little attention to the study of technique; but it

is certain if this were not so, the value of the process-plate would be recognized far more widely than it is to-day. Process-plates may also be obtained in ortho and panchromatic grades, useful where a correct color-translation of the original is required.

EXPERT, in the *British Journal*.

Washing Prints in Sea-Water

In view of camerists making snapshots at sea, occasionally, in which case rain-water may not be available, salt-water for merely washing after fixation may be used with comparative safety. English photographers on naval craft are using sea-water for washing prints after fixation and, as soon as convenient, washing them thoroughly in fresh water. The practice of resorting to the use of sea-water—in the absence of fresh, or distilled water, or even rain-water, in the circumstances described—is safe enough, except that if the salt in Neptune's element was not removed thoroughly, it might leave the prints hygroscopic or remain on them in the form of crystals. The final washing in fresh water is imperative, and it must be thorough.



THE CRUCIBLE

A MONTHLY DIGEST OF PHOTOGRAPHIC FACTS

With Reviews of Foreign Magazines, Progress and Investigation

Edited by A. H. BEARDSLEY



Hypo-Alum Toning

WE are indebted to Rajar, Ltd., of England, for a description of their excellent method of hypo-alum toning, which is given herewith.

The hypo-alum toning-process is becoming increasingly popular among photographers, as it has been proved to be a most satisfactory method of toning bromide and gaslight prints, being simple to work and giving regularly good results. There is no degradation of the whites, and very little variation in the color, if the prints are exposed and developed properly. Perhaps, the only criticism against the process is the tendency to give very cold sepia or purple tones, and in this connection we recently carried out some trials in order to ascertain the best method of producing warm brown tones regularly.

Differences in the proportions of hypo and alum did not make any material difference, and there was none in the final tone of prints that were placed directly in the hot bath and those placed in the cold solution and gradually heated up. The amount of potassium bromide in the developer appears to influence the color; but, in our opinion, the final color is influenced mainly by exposure and development. For warm tones, the exposure should always be slightly on the over side, and development stopped a little short of the usual time for a black print. A print correctly exposed and fully developed to a good black will give invariably a cold purplish color after toning. What is wanted, is a nice balance maintained between exposure and development, and this is an instance where the personal skill and experience of the printer is useful. The formula we recommend is as follows:

1. The amount of potassium bromide in the developer should be not less than $\frac{1}{2}$ grain to the ounce.
2. Exposure should be slightly on the over side.
3. Development should be stopped just short of full.
4. The old toning-bath should be retained and strengthened occasionally with fresh solution.
5. The ideal print for toning should be slightly greenish in color when it leaves the fixing-bath.

Very fine tones are obtained on gaslight-papers, the color being again strongly influenced by the exposure and development.

A suitable fixing-bath for prints that are to be toned in hypo-alum is:—

Strong Sulphuric Acid, 2 drms. (fl) in water—2 ozs.
Add this to Sulphite of Soda, 2 ozs. in water—6 ozs.
Pour mixture into Hypo, 16 ozs. in water—48 ozs.
Finally add to above mixture—

Chromic Alum, 1 oz., water, 8 ozs.

Mounting Photographic Prints on Glass

PHOTOGRAPHS of scientific and technical subjects, particularly when serving educational purposes, as they pass from hand to hand, are mounted best directly behind a sheet of glass. In this manner, the picture

will be protected not only against injury when being handled, but against atmospheric influences. This method of mounting is effective particularly with prints on glossy or matte paper. In order to obtain complete contact with the glass surface, it is necessary to flow the latter with a one-half per cent gelatine solution; but before doing this, the glass plate must be cleaned thoroughly and then polished. The gelatine emulsion is conveyed to the glass surface in the usual way and allowed to dry. The mounting of the print is done in the following way: The print is wetted thoroughly and with the gelatinized glass plate is brought under water and the print attached. When this has been accomplished, the whole is taken from the water and the print pressed firmly and evenly against the glass by means of a print-roller of a rubber squeegee. A sheet of flintless blotting-paper is then laid on top of the print, weighted down flat with a few magazines or a large book and set aside to dry.

Using Stale Dryplates

THERE are many workers who have on hand, partly used or unopened, boxes of dryplates of uncertain age, that to-day yield flat negatives. Becoming discouraged, the average consumer is very apt to discard them as permanently useless—except, perhaps, as glass to be cleaned and recoated—when, as a matter of fact, they can be made to produce fairly good results. A standard formula is as follows: Immerse the plates for fifteen minutes in twenty ounces of water containing one-fourth ounce of potassium bichromate and one-fourth ounce of ammonium bromide. Then rinse plates for thirty minutes, wipe with tuft of cotton and dry spontaneously—all of which work must be done by ruby light.

The Camera at the Bedside

THE connection between photography and influenza is not very obvious, but in the elucidation of the recent epidemics photography, as everywhere else, plays an important part. It is not merely that photography is a means of recording the appearance of microscopic specimens in the pathological laboratory; it has its clinical uses in the wards of the hospital as well. Doctors who have been studying the curious group of diseases with which influenza is more or less associated—a group which includes "botulism"—have found it useful to photograph the faces of their patients as they lie in bed, the photographs bringing out the characteristic facial appearance of these cases. Recently, we saw a "bedside-series" of photographs of people afflicted with these modern ills (if they are modern); and very interesting and suggestive they were, too, even to the layman. The medical man pursues many strange lines of inquiry when you are ill, but perhaps he gets his surest information from a glance at your face; and the bedside camera puts the face on record, either for purposes of comparison or consultation. The camera may one day be as necessary an implement for the consulting-room as the stethoscope.—*I. P. and P.*



BEGINNERS' COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.

Prizes

First Prize: Value, \$2.50.

Second Prize: Value, \$1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is "*Miscellaneous*"; but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than one year's practical camera-activity, and without any practical help from friend or professional expert. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from $2\frac{1}{2} \times 3\frac{3}{4}$ to and including $3\frac{1}{2} \times 5\frac{1}{2}$ inches, and enlargements up to and including 8×10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data. Criticism on request.*

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives after he shall have received official recognition.

7. *Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print for what contest it is intended.*

8. Competitors are requested not to send prints whose mounts exceed about 11×14 inches, unless they are packed with double thicknesses of **stiff** corrugated board—not the flexible kind, or with thin wood-vener. Large packages may be sent by express.

Awards—Beginners' Competition

Closed October 31, 1918

First Prize: E. H. Smith.

Second Prize: Alfred S. Upton.

Photographic Opportunities of the New Year

THE new year offers the beginner a definite starting-point in his photographic career. The holiday-season may have brought him a new camera and with it the desire to "make good," photographically. Then, there may be those who bought a camera hurriedly at vacation-time and failed miserably to obtain satisfactory results. In short, beginners now have the opportunity to make their New Year's photographic resolutions.

The first and most important resolution that a beginner should make is to master his camera. In no circumstances should he attempt to make pictures until he can manipulate the lens, shutter and adjustments of his equipment. An excellent way for the beginner to prove his ability is for him to try to explain the manipulation of lens shutter and adjustments to a person who knows absolutely nothing about cameras. If a beginner can make each point so clear, that the unsophisticated listener follows the explanation intelligently, the tyro is ready to attempt picture-making. This suggestion may appear to involve an unnecessary amount of time and effort; but rest assured that in the end, it will bring about a great saving of money, material and disappointment. Too many beginners—their eyes dazzled by the glare that has its source in the impression that photography is absurdly simple—hurry out with their new cameras expecting to achieve results. They do—but what results! Why is it that a beginner in photography is supposed to advance easily "on flowery beds of ease," but a beginner in rifle-shooting, baseball, golf or tennis must practice, practice and *continue to practice*? Moreover, photography is more of a science than it is a sport, and who can master even an elementary science in a day?

The beginner who receives a camera as a Christmas-gift should rejoice; but he should also take his present seriously. There are many "snapshooters" and too few real photographers. There appears to be a popular belief that every beginner must "sow his (photographic) wild oats" by snapping his camera to right and to left, regardless of subject, composition and expense. There is no truth in such twaddle. There is no more reason for a beginner in photography to waste material and money than there is for the purchaser of an automobile to overheat his engine, "strip" the gears, neglect to oil the bearings and otherwise to abuse his new car. The great opportunity of the new year is to *start right, and to stay right*, photographically. Every time the beginner draws his camera from its carrying-case, he should have a definite object in mind, so that he will make a distinct step in advance. At one time it might be to photograph a landscape; at another, it might be to portray mother in the bay-window; and at a third, it might be an attempt to catch the expression on the faces of "our boys" as they march past, just back



GRAY DAWN

E. H. SMITH

FIRST PRIZE — BEGINNERS' COMPETITION

from France. No matter what the subject may be, let every beginner make it an inflexible rule to do his very best. Within a few weeks he will be amazed at what he has accomplished, technically and artistically. It is the steady "plugging" that counts and not the spectacular effort of the moment.

Those beginners who began their photographic careers at vacation-time and who, for one reason or another, are discouraged photographically, should take heart. A little self-analysis will disclose the cause of failure. Perhaps there was too much of "I'll-take-a-chance" photography; possibly unusual weather-conditions added difficulties to the beginner's honest attempts to master his camera; or, again, there may have been no sincere desire to profit by mistakes. Whatever the cause of discouragement may be, let the beginner "forget it," make a New-Year's resolution to master his equipment and to begin now to make good in photography. There is always immense satisfaction in doing a thing right—even in picture-making.

The long winter-evenings should prove to be of inestimable value to every beginner, provided that he uses them to advantage. The art of developing, printing and enlarging requires time, effort and persistency for its mastery. Despite the developing-tanks, automatic printers and fixed-focus enlargers, the human element is still to be reckoned with in photographic manipulations. There should be a card printed and hung on every darkroom-door to read, "Photography is simple to those who master it." There is no denying the remarkable achievements in the simplification of photography; but even the addition of a few ounces of water to a prepared de-

veloper requires thought and accuracy on the part of the beginner. To grasp a tin-dipper filled with water and from it pour *about* so and so many ounces is the sort of "human element" manipulation that photography, no matter how simple it becomes, can never overcome.

The same thing may be said of exposure-meters, automatic focusing-devices and other "short cuts" to obtain results without too much brain-work. As a matter of fact, there is no exposure-meter yet devised that does not require the use of thought and good judgment. Needless to say, an exposure-meter should be a part of every beginner's equipment; but the novice should not expect his exposure-meter to replace his own intelligence. However, any of these photographic "short cuts" are invaluable aids to the beginner who uses them as they are intended to be used—with common sense.

The study of photographic equipment of every kind will be of advantage to every beginner. Even though his present outfit is unpretentious, there is no reason why he should not accumulate information with regard to standard American and European cameras and their various accessories. Few ambitious beginners use the same outfit indefinitely. Usually, as soon as they master one they seek to obtain a more advanced type of camera and so continue until they have an *actual* and not merely a speaking acquaintance with virtually every camera of merit on the market. However, each step in advance must be based upon the thorough mastery of the preceding equipment. Careful study of manufacturers' catalogs and other descriptive matter combined with the thoughtful reading of photographic textbooks and magazines will do much to help the beginner use his present equipment to ad-

vantage and will ensure rapid and satisfactory photographic progress in the future.

Although I have touched on the possibilities but briefly, I believe that the readers of this department will get my point. There should not be a labored effort to attain the goal set; but rather a happy, spontaneous desire to get out of photography all there is in it of pleasure, knowledge and artistic appreciation of the beautiful. Why not keep a brief record of photographic progress in 1919? By another year such a record, if kept faithfully, should prove to be valuable and a source of pride. Try it out for one year; but first make a New Year's resolution to *stick to it!*

A. H. B.

The Zodiacal Light

ONE of the advantages of the lessened glow of the great cities, is that many people are appreciating the night sky for the first time in their lives. The Milky Way, which is now visible to the town dweller, is easily captured on the photographic plate; but there is another luminous track which, although when seen from certain parts of the earth it is said to rival the Milky Way in brilliance, presents a much stiffer problem, and has rarely been photographed at all. This is the Zodiacal light, which is seen in the west after sunset or in the east before sunrise, and is supposed to be the glow from a cloud of meteoric matter revolving round the sun. Professor Douglass, of Arizona University, has brought forward a method of photographing the Zodiacal light which is interesting as another instance of building up a cumulative image. Exposures are made simultaneously on curved films with several lenses exactly alike, with large ratio of aperture to focal length. On each of the separate negatives the Zodiacal light is either invisible or very uncertain, but when the plates are placed in a pile the small effects become cumulative and the Zodiacal light shows up well.

Increased Contrast in Enlarging

IF a negative is at all inclined to be thin, it yields a better enlargement than contact print, the enlarging-process tending to give increased contrast. This has nothing to do with the size of the picture, but solely with the fact that it is being copied by means of a lens and not by contact; and it is possible therefore to use this method even when the print is not to be any larger than the negative, or when it is to be smaller. All that has to be done is to make it by means of the enlarging-lantern instead of with a printing-frame. For this purpose a greater degree of extension will be required for the front of the lantern than is sufficient for enlarging; but ample extension is valuable, not only for this purpose, but also to allow lantern-slides to be made by reduction by means of the enlarging-lantern. If the prints can be made on slow gaslight paper instead of on rapid bromide paper, which is possible if the lantern has a good light and the negative is not too opaque, there is still further gain in contrast.—*Photography*.

Printing from Very Dense Negatives

A READER has sent us a negative with a request that we should tell him what reducer to apply to it. There is sufficient, but not excessive, contrast; his trouble is that to make a print from it requires an altogether impracticable time. On printing-out paper it looks as if a day or two in medium light would be none too long. The advice we gave—and we repeat it here, as it has a

wider application—is not to tamper with it at all. Reducers and intensifiers have their uses; but every rewetting of a negative involves risk of injury, and is only to be undertaken when there is some very good reason for it. Although it may take days to print on printing-out paper, it will not require more than a few seconds' exposure to give a fully-exposed positive on a rapid plate, and, when this has been made, a repetition of the process will yield a fresh negative with all the contrast and gradation of the old one, but without its opacity. It is not necessary to use transparency plates for such work as this, many even hold that the rapid plate, such as is used in the camera, is actually better, as tending to give better gradation than the very clean-working brilliant transparency plate. It will be quite soon enough to have recourse to a reducer when the duplicate negative method has failed; although we do not know any reducing-solution which we could recommend to remove the fog without at the same time endangering the image. Its action would be certain to bring with it a risk of injury to the gradation, which should not be lightly incurred. There is always a temptation to resort to intensifiers and reducers, against which the experienced worker is ever on his guard.

A. P. and P.

Lantern-Slides from Small Negatives

THE question is asked frequently by beginners what size should be the negatives for lantern-slides. To users of small cameras, including vest-pocket size, the advice given by the editor of the *Amateur Photographer* should be very welcome.

"Lantern-slide making should certainly profit by the increasing popularity of cameras which take smaller sizes than quarter-plate ($3\frac{1}{4} \times 4\frac{1}{4}$ inches). The quarter-plate was too large for contact work, although many photographers refused to recognize the fact. The consequence was that many slides were made in which the subject was cramped, and the whole composition suffered from the attempt to include it in an area which was never considered when the original exposure was made. In looking at a large number of lantern-slides by many different workers, as was our task at the judging of the annual competition, it was quite easy to recognize the effects of this practice in many cases. The largest negative which may be considered as suitable for contact work in general is $3\frac{1}{2} \times 2\frac{1}{2}$ and, even with this size, one has to be careful to leave an ample margin at each end of the plate; since when we allow for the binding of the slide, $3\frac{1}{16}$ inches is about the maximum that can be included. With quarter-plates, except by chance, or when the picture has been arranged intentionally in a limited area of the plate, it is much better to bow to the inevitable, and make the slide by reduction, even if the degree of reduction is only a slight one. If the quarter-plate negatives are to be used for slide-making by contact, the only safe plan, if we are to guard against such a fault as we have indicated, is to provide the ground-glass with a mask about 3 inches each way, or to mask off the finder to an equivalent extent, and take care to arrange the picture within the opening so marked off."

Hold Your Liberty Bonds

THE American soldiers in France have taken territory and hold it. The American people at home having taken Liberty Bonds should hold them. This is not only patriotic but it is very sound finance. Liberty Bonds are safe, and the probabilities are that they will greatly rise in value. Hold your Liberty Bonds.

SECOND PRIZE
BEGINNERS' COMPETITION



DOLLY D.

ALFRED S. UPTON

A Simple Lens-Hood

THE smallness and compactness of the present day pocket hand-camera does not leave the maker much room to fit a decent-sized lens-hood; in fact, on most cameras of this type it is conspicuous by its absence. This may be very well from the point of view of portability; but there is no doubt that many a photograph is much poorer in quality from this cause than would otherwise have been the case, especially when the lens is used at a very large aperture. When the subject is one which is brilliantly lighted, as most hand-camera subjects are, flatness and fogginess are common faults, due to the unrestricted flood of light which finds its way through the lens. This can be prevented very easily by fitting a hood, which can be made in a few moments and at no cost, as this note will show.

The diameter of the lens should first be taken by means of a piece of string and a note made of the length. A piece of thin metal, brass or German silver (which by the way is not an enemy-product), will do very well about an inch wide and a quarter of an inch or so longer than the piece of string is obtained. This is then bent into a circular shape to fit the outside of the lens. The metal should first be heated to red heat and allowed to cool, as this makes it easier to bend.

After the proper shape and size have been obtained, the hood is closed a little, so that when it is placed in position on the lens it has to be pressed out to enlarge the circle, and thus fits firmly in position.

C. R. D., in *A. P. and P.*

Removing Varnish from a Negative

WHEN a negative has been varnished and it becomes necessary to remove the varnish in order to treat the film with solution, it is not sufficient to remove the varnish itself, the gelatine will be left in a repellent condition, and will take any liquid unevenly. Any greasiness can be got rid of by soaking the negative in very dilute ammonia, one part of strong ammonia to a hundred parts of water. After two or three minutes in this, the surface should be rubbed gently with a tuft of cotton, and the negative washed for a few minutes. If it is still horny and repellent, it may be placed in water to which acetic acid has been added in the proportion of one ounce of acid to thirty ounces of water. A quarter to half an hour in this should leave it quite amenable to the solutions; but it might be necessary to rinse it in one or two changes of water, as any trace of acid would be injurious.—*A. P. and P.*



FOUR ILLUSTRATIONS

WILFRED A. FRENCH



SWITZERLAND, the asylum of the tyrant and the oppressed, alike; the refuge of members of all warring factions, indiscriminately; threatened of invasion by the erstwhile war-lord; embarrassed, and suffering unjustly and diversely, in many ways, on account of the most cruel of all wars; hemmed in, all around, by a half-dozen different countries; existing, for centuries, only by the grace of the Great Powers, and unmarred physically by the effects of war, the little Helvetic republic still prevails. Her innumerable spots of natural loveliness will continue to delight the eye of the tourist-camerist; for lovers of nature from all quarters of the globe will resume their visits to this land of diversified natural beauty, when tranquillity shall again be restored to this troubled world.

Few artists have succeeded in revealing by photography her numerous and manifold pictorial treasures so well as G. R. Ballance. He has spent about ten years among the Swiss mountains and valleys, at all seasons of the year, portraying industriously and with exceptional artistic skill all classes of attractive subjects, familiar and otherwise, and since 1906 readers of PHOTO-ERA have had the rare pleasure to study, periodically, examples of Mr. Ballance's camera-work in Switzerland. The frontispiece, this month, is a delightful view of the favorite summer-resort, Brunnen, at the upper end of Lake of Uri, one of the arms of Lake Lucerne. The smiling scene embraces a wealth of beauty—so much, that the "trimming-brigade" threatens to get busy, for at the point of the bridge the picture appears divided in two nearly equal parts. Therefore, we can spare an inch at the bottom, thus lowering the bridge and the building and improving the general pictorial design. The technical qualities are superb, based partly upon the following data: July; bright; 5 x 7 camera; 8½-inch Goetz Dagor; at F/8; 6-time ray filter; Ilford Iso plate; pyro-soda; contact print on C. C. Platinotype paper.

We suppose that Mr. Davidson intended his two subjects to serve a technical end, in which case it would not be quite fair to attribute to the author any serious artistic purpose. He is a pastmaster of technique, in its best sense, and whatever he chooses to pen on that subject, is welcome reading. He is also a keen, intelligent observer and wants to know the reason for everything, as a communication, printed elsewhere in this issue, will demonstrate. Data: "Pietro"; July, 2 P.M.; brilliant sun; 5 x 7 Premo; 7-inch Zeiss; U. S. 4; 2½ seconds; Hammer Non-Halation Ortho (D. C.); pyro-soda; N. C. Artura-Medium. "Chaparrajos"; same month, time, light, camera, lens and stop; 1 second; Cramer Portrait Isonon; N. C. Artura-Medium; pyro-soda.

In lieu of a conventional winter-view, we present on page 7 a typical scene near Lake Geneva, Wisconsin, at an elevation of about two hundred feet, the home of the famous Yerkes astronomical observatory. "The chemical effect," as the professional expert would say, is supremely fine. We have before us a complete scale of gradations, from the deepest shade to the highest light, and it would be difficult to exceed the technical accomplishment of the photographer. Data: February 25, 1918; 11 A.M.; just after a severe snow-storm; 5 x 7 camera; 8-inch Luxor Anastigmat; stop, F/16;

cloudy, but bright; 1/50 second; 5 x 7 Standard Orthonon; pyro; contact print, Azo F Hard.

The Hawaiian landscape, page 9, shows a well-known photo-pictorialist at his best. In this semi-tropical view the eye rests gratefully upon a subdued background furnished for the lofty palms, for usually the sky in similar pictures is barren and glaringly white, and the gentle diffusion of outline adds much to produce a pleasingly mellow, atmospheric effect. Thus, the highest lights, supplied by the two white structures—well placed in the picture, as they are—instead of offending the eye, as they might, really become the main point of interest. Tonal harmony in a satisfying composition, of pictorial and physical interest, is the net result of Mr. Turner's commendable effort. Data: January, 10.30 A.M.; 3 A Special Kodak (postcard-size); 6½-inch Tessar II B; stop, F/9; strong sunlight; 1/25 second; N. C. Eastman film; pyro; 8 x 10 enl. on Wellington Bromide with Verito lens.

Prints on rough-surface mediums do not lend themselves generally to satisfactory reproduction by the halftone-process; yet the results from the three prints that Mr. Gingrich sent with his article on the gum-process are by no means disappointing. The clearness of outline and the rough texture of the original prints reappear in the reproductions with scarcely any loss, although the pleasing warm-black tone of the originals had to be sacrificed. Nevertheless, this omission should not prejudice the beholder against the merits of the bi-gum process, as presented by Mr. Gingrich, who, justifiably pleased with the results he has achieved, unstintingly gives his experiences to the readers of PHOTO-ERA. Data: "The Author"; June; 5 x 7 Century camera; rapid rectilinear lens; stop F/16; gum-bichromate; M. Q. developer. "Betty"; October, 2 P.M.; sun; same camera and lens; U. S. 8; 6 seconds; Seed 26x; gum-bichromate; M. Q. developer. "The Spire"; June, 8 A.M.; bright; 1/10 second; U. S. 16; same camera and lens; Seed 26x; gum-bichromate; M. Q. developer.

As one gazes on the sublime majesty of the Zion Canyon, as presented by George R. King, on page 15, one seems to feel the supreme power of the camera. This feeling is capable of expansion proportionate to the increase in size of this magnificent representation. The mind can indulge in flights of fantasy, *ad libitum*, and wonder how infinitely meager are the works of the cathedral-builders of the renaissance, in comparison with the creative power of the Divine Architect. How colossal, how sublime, these rugged Gothic forms, as they rise, one above the other, from the depths of the valley to a height of several thousand feet, dwarfing, several times, the giant cathedral of Cologne—the perfection of Gothic architecture. The main entrance to that edifice may be more ornate, but it is far removed in simple grandeur and perpetual stability from the giant pointed arch that rears its head high above the valley, at the left in our picture. The play of light and shade is in keeping with the vast natural edifice—bold and vigorous. The atmospheric perspective and succession of planes is a triumph of photographic technique and a credit to Mr. King's uncommon skill. The Zion Canyon is situated in Southern Utah, tributary to the Grand Canyon, and has lately

been opened up and converted into a National Monument. It is intimately associated with the history of the Mormons and, doubtless, replete with thrilling tales and mysteries, which will tempt the genius of an imaginative writer. Data: April, 2 p.m.; dull sunlight; 8 x 10 Seneca camera; 12-inch Dagor; stop, F/32; B. & J. 3-time color-screen; full sunlight; 8 x 10 portrait film; M. Q.; direct contact-print Azo.

The "White Roof," by W. E. Potter, page 17, makes a strong appeal to the artistic sense by reason of its novelty as a pictorial theme. It is unconventional, admirable in composition, the low-placed white roof of rigid form, opposed to the dark irregular, freely moulded mass of foliage, at the left. The motive is eminently original and artistic in treatment. Data: June, 2 p.m.; bright, cloudy; $3\frac{1}{2} \times 4\frac{1}{4}$ Film-Pack; $7\frac{1}{2}$ -inch R. R. lens; stop, F/8; 3-time color-screen; 1/25 second; pyro-soda; print on No. 6 P. M. C.; Amidol.

Massive and grand in its seclusion, the giant fir, page 19, seems calmly to await the fate of many of its fellows—in accordance with the exigencies of war; for the wood of the fir, the spruce and the walnut-tree were great factors in the successful prosecution of the war. But such material thoughts should be banished in the contemplation of this superb picture, by D. W. Ross. The setting in the portrayal of this giant of the forest has been chosen with rare artistic judgment, which is fully justified by the gratifying result. Data: October 30, 1918; 3 p.m.; weak light, 5 x 7 Premo; $8\frac{1}{2}$ -inch No. 3 Dagor; stop, F/8; $\frac{1}{2}$ second; dryplate; pyro; 8 x 10 Bromide enlargement. 15 million feet of spruce and 25 million feet of fir were cut for airplane construction, from June 1917 to May 1918, by the Spruce Division, U. S. A.

As this issue of the magazine may reach the hands of many subscribers during the holiday season, it is hoped that the beauty of sentiment that pervades the poetic achievement of Frederick B. Hodges, page 30, will enter into the hearts and souls of the readers. It is, indeed, delightful to see such perfect blending of poetic expression and pictorial art as has been the good fortune of Mr. Hodges to accomplish. We compliment the poet-artist on the beauty, the nobility of his performance, and congratulate all those who will be privileged to enjoy the whole-souled, exalting offering of the accomplished author. Data: "The Plains," near Rome, N. Y.; October, 9 a.m.; fair light; 8 x 10 Century camera; $11\frac{1}{2}$ -inch Tessar; stop F/22; $\frac{1}{2}$ second; 8 x 10 Stanley plate; pyro; Azo contact-print; clouds printed in.

Advanced Workers' Competition

THE best pictorial effects in architectural photography can be generally obtained in conjunction with trees in foliage. This is shown in an admirable manner by E. M. Pratt in his view of the state capitol of California, page 33. The lighting and sky, too, play very important parts in the artistic result—features equally well demonstrated in our picture of the California capitol, which, in its beautiful setting was hung in the last London Salon and received high praise from the critics of the daily and the photographic press.

Data: March 17, 1918; 2 p.m.; bright sun; 4 x 5 Struss Camera; Struss Pictorial Lens; 12-inch focal length; stop used, F/5.5; K-2 color-screen; exposure, 1/12 second; Standard Orthonon Plate; Rodinal, tank-development; 11 x 14 enlargement on Montauk Bromide No. 3; M. Q. developer; original diffusion in original negative reproduced without modification.

The somewhat symmetrical and rigid view of Mr. Bitter's beautiful picture of the entrance to some emi-

nent institution of learning, page 35, has the softening aid of neighboring foliage. The overhead lighting brings out the carved decorations in the *façade* and imparts a pleasing brilliance to the elegant architecture. A nearby shade-tree partly conceals the apparently less interesting section over the entrance and simultaneously casts a grateful shadow on what would be a monotonous foreground, thus obviating too strong a tendency to topheaviness. The figure of the student about to enter gives needed life and significance and completes the picture. Data: July, 3 p.m.; clear, 5 x 7 Conley; back combination of 8-inch Gundlach Rectigraphic lens; stop F/14 (as marked) or F/22 for back combination; 1/10 second; Standard Polychrome plate, *glass-side to front*; pyro-acetone; print on Prof. Cyko Plat developed with Amidol (Johnson's). Photographed through glass-side of plate to reverse the image, bringing right on the door and making the lines and light run out of picture to the right.

The City Hall of Philadelphia, as pictured by Leopold Zwarg, on page 36, cannot be said to be a triumph in civic architecture; besides, the structure is inaccessible to the camera, although the tower, itself, is a convenient mark for a tele-photo equipment. Here, the column appears somewhat crowded, but, in reality, it is a feature in an architectural group, together with the Bellevue-Stratford Hotel and a business-block. The line of parked automobiles, and others in motion, form a desirable base to a typical view of the Quaker City. Data: Oct. 18, 1918; 4 p.m.; weak sunlight; $3\frac{1}{2} \times 4\frac{1}{4}$ Seed Graflex plate; pyro-soda; $9\frac{1}{2}$ -inch Dagor; stop, F/6.8; 1/25 second; enl. on Artura Carbon Black, grade D.

Beginners' Competition

WHEN a beginner produces a picture of Salon quality it is an extraordinary event; and that is precisely what E. H. Smith, the first-prize winner, has done. "Gray Dawn," page 39, rejoices in simplicity of composition—two small, meager trees in a plain landscape and a gray sky. Yet, it is the pictorial treatment and poetic sentiment of this modest, almost commonplace theme that have produced a masterpiece. We know nothing of the history of the artist, except that he has honestly subscribed to the rules laid down in this competition.

He evinces an enviable knowledge of artistic composition, which must be obvious to the critical observer—the judicious repetition of the principal single object; the placement of this tree and its companion, the allotment of masses and the suggestion of the birth of a new day. Data: August, early morning; dull light; 4 x 5 Premo B; $6\frac{1}{2}$ -inch R. R. lens; at full opening; Seed G. E. 27; pyro, tray; contact print, Cyko Enlarging Glossy.

The charm of adolescence has been pictured with delightful success by Alfred S. Upton in, "Dolly D.," page 41. The grace and naturalness of the little girl, as she tests the perfume of a flower, and the dainty quality of the illumination, not to ignore the attractiveness of the model, herself, combine to produce a picture of rare loveliness. The vignetté effect, to modify a turbulent background, might have been done with greater skill, perhaps; but it is not a serious fault. Data: August, 1918; bright light; B. & L. R. lens. 6-inch focus; stop, U. S. 8; 1/15 second; Eastman N. C. Film; M. Q.; contact print Artura Iris.

Our Contributing Critics

THE picture offered this month to our contributing critics for consideration is, "In Cassock and Cotta" by Franklin I. Jordan.



OUR CONTRIBUTING CRITICS



YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us, postpaid, a copy of "Pictorial Landscape Photography" by Paul Lewis Anderson, price \$1.50.

WHAT are these children trying to do—holding up a tree? The tree looks as if it were about to fall and one of the poor things will be crushed. Their weight is distributed equally on their feet and legs: they are clearly not playing, because playing implies motion in children. They are staring at each other, but the lack of animation on their features forbids the assumption that they are engaged in a game of peck-a-boo or anything of that sort. What are they doing?

How do they happen to be so nicely dressed up in their best clothes in such a desolate, swampy place? It looks as if it were about to rain; the poor things will get wet, far from home and no one near to take care of them. In other words: the background is grossly incongruous with the center of interest which is the children. The children are in a pose which is inappropriate and unnatural. The picture is flat, because of lack of sunlight and shadow.

E. L. C. MORSE.

THE receding background, in this picture, gives excellent perspective with good separation of planes. The technical qualities are good, but the placing of the children is bad, as a divided interest takes place. One child appears to be pushing the tree over and out of the picture, whereas the other one, with her diminutive strength, to keep it from toppling over. The tree with its bare trunk is too large for picture-space and it would be better if camera had been withdrawn to considerable extent, which would have taken more space to right, making a splendid exit to scene and subjects would not be so badly centered.

M. N. BREMON.

THE position of the children is very strained and uncomfortable; together with the leaning tree is very unfortunate. There is nothing restful and the eye is led immediately out of the picture. The leaning of the main tree is repeated again by the large tree in background. Altogether, the print is flat and there is no difference in planes. It is a hard print to recommend a method of reconstruction. However, a straight tree with a less insistent background photographed in sun-



THE PICTURE CRITICIZED THIS MONTH

shine to give relief; also were the children placed in a more natural position, for instance, have the children leaning over—pecking as in real hide-and-seek—would give meaning and interest to the picture. Lastly, avoid placing the interest or main objects too near center.

LOUIS R. MURRAY.

It is evident that the little girl in plaid is pushing the tree over despite the utmost effort of the little girl in the dark coat; and all my sympathy is with little Miss Dark Coat, for she is doing her best to stop the tree from falling, ignoring the imminent danger of being overwhelmed and crushed. I would suggest that the artist trim the picture so as to make the second large tree stand vertically, were it not that such trimming would cut off one foot of little Miss Dark Coat, and she needs both feet for her herculean task. If the center of interest were not so exactly centered in the picture-space, the trimming could be carried out without amputating a foot. Otherwise the picture is very good, especially the atmospheric perspective.

CLARENCE A. PIERCE.

WITH me, the feeling a picture gives, makes or mars it. When I look at the picture, under discussion, my first impulse is to remove the larger child from where she is, *for fear the tree will fall on her!* As I understand composition, the impression I get of the tree falling is due to it being one side of a triangle, the other *supporting* side being lacking. I believe that if the pho-

tographer had stood some ten or fifteen feet to the right, so as to make the tree in the rear, a support for the tree in the foreground, the picture would not give the feeling which I mention. It is regrettable that the photographer overlooked that detail of composition, for otherwise I consider the picture very good, indeed. Ample exposure, good tones (except in the larger girl's face—due to lighting), unobtrusive background, all combine to make what might have been a very successful picture.

FRANCIS S. MORRIS.

AN unfortunate selection was made in the tree used, the one selected slanting sharply to the right. With the short foreground at the bottom of the print, this makes the composition appear unstable, with the child on the right endeavoring to hold up the tree. The straight tree to the left would have been better. The branch protruding from the left side, above the child's head, is rather distracting, also. The posing of the children is commendable, with the exception of the one on the left whose left leg and foot are foreshortened and distorted. The lighting is rather flat, and there is no play of sunlight and shadow to offset the somber gray tone of the trees. The child's hand is gray, also. The composition seems to be slightly out of focus, with the sharp focus on the branch above mentioned. If the print was trimmed liberally from the top, it would greatly enhance the result. About an inch and a half off the top of the print changes it to a pleasing study.

H. J. SHIPTON.



ON THE GROUND-GLASS

WILFRED A. FRENCH



The Moon in Art and Photography

MR. DAVIS' evening-landscape with its deceptively placed moon, which was criticized by PHOTO-ERA readers in our Contributing Critics Department, last June, has engaged the interest of several professional artists in Boston and elsewhere. They poke fun at photographers, declaring that when they desire to improve the sky of their pictures of "The Declining Day," insert the form of a young or a waning moon without the slightest regard for accuracy.

A certain well-known artist, who has a deep-seated prejudice against all pictorial photographers, brought me a photograph of an attractive late-afternoon landscape in which, surely enough, the camerist had introduced the crescent-moon in quite the wrong way. Instead of placing the young moon so that its lighted (convex) side faced the direction of the sun—which had disappeared below the horizon, in the west—that is, in an obliquely downward direction, he shows it facing slightly upwards, thus giving the impression that the sun is still high in the sky. Moreover, the moon in this picture appears directly in the center of the afterglow, in the west, whereas its proper position is slightly to the left—for obvious reasons.

I asked that the photograph be left with me for investigation, which was done. I subsequently got in touch with the author of the photograph and induced him to explain how he came to introduce so impossible a moon. He frankly confessed that he had little knowledge of the behavior of the moon in any of its phases, and, being impressed by "The Slaggan Pass, Scotland," an aquatint by Stella Langdale—in which the crescent-moon was hanging high in the evening-sky—he simply did the best thing possible, as he thought, and copied faithfully the form and position of the young moon as it appeared in the reproduction of the picture in a recent issue of a prominent American art-journal. I have procured a copy of this publication. I can vouch for the accuracy of this entire story. I have also invited the professional artist who criticized so severely the work of erring photo-pictorialists, to ask him which, in his opinion, is the more trustworthy delineator of fair Luna—the professional painter or the pictorial photographer.

Even Dead Men Cannot Escape

DURING the recent epidemic of influenza, a well-known undertaker volunteered to help his hard-pressed fellow-workers in one of the foreign settlements of the city. His intentions were of the best; but when he was asked to arrange a funeral for a poor Polish family he was somewhat at a loss, being unfamiliar with their customs in times of bereavement. However, he proceeded with his arrangements to the evident satisfaction of the family.

After the body had been carefully laid in the casket, and only a short time before the funeral-services, he found that there were not enough chairs, and immediately went to get more. About half an hour later he returned and began to place the extra chairs about the room. As he did so, he happened to glance toward

the casket. To his amazement the corpse was gone! He searched the house for members of the dead man's family. Not one could be found. In his profession of undertaker, he was not given to feelings of horror; but he was genuinely puzzled at the sudden turn of affairs. Perhaps this was one of their unusual Polish customs that he had read about. As he continued his search, he happened to glance out of a window that commanded a view of the back yard. There—propped up on both sides by his wife and daughter—leaned the dead man. In front of them, a third member of the family was focusing a camera!

It seems that among the Polish Jews, it is imperative that the family possess a picture of the deceased. In the present case, this detail had been evidently overlooked and the only way to provide one, was to photograph the corpse. There was not enough light in the room for a successful exposure, and no one possessed a flashlight-equipment, perforce, the dead man must be photographed in the open—and he was!

A. H. B.

Camera-Men on a Hike

A NUMBER of camera-men having done some special work at a military camp, were on their way to the railway station to take the train to the city. Friendly automobiles or jitneys were not available, so they were obliged to foot it. Pretty soon, they struck a long stretch of road covered with trap-rock, which they could not avoid. As they were wearing their everyday, thin-soled shoes, they found the walking difficult, if not painful. In the midst of their trying journey, one of the tripod-bearers, gifted with a sense of humor, exclaimed: "These are times that try men's soles!"

Leveling the Camera Without a Level

THE level-headed photographer of important architectural subjects will see that his camera is strictly level during exposure. This is on "the level," although, according to advice given in a recent issue in the *Amateur Photographer*, a level is not necessary. There is sure to be a vertical line in the subject (since that is why a level camera is so important); and on the ground-glass the image of this line is brought up close to one edge of the focusing-screen, so that we can make quite sure the two are parallel. The camera is then turned on the stand until the line is close to the opposite edge. If it is also parallel to this, the camera is perfectly level.

An Unprofitable Sitting

AN eminent studio-proprietor, while away on Government-work, permitted a cynical but capable amateur photographer of his acquaintance to substitute for him, with the following disastrous result:

Fair Sitter: "You wouldn't suppose that I had a son in school, would you?"

Truthful, but tactless, Photographer: "No, indeed; I had an idea that all your children must be through college by this time."



PHOTOGRAPHIC THRIFT



Photo-Thrift

AMATEUR and professional photographers are just as eager for reconstruction as those engaged in other activities. The saving of time and material is vital. PHOTO-ERA leads—more often than it follows—a worthy cause. In the present instance we believe that PHOTO-ERA is establishing another precedent. Surely, our readers must know many methods whereby a saving of time and material may be made. Now is the moment to give photographers the benefit of personal experience with regard to the saving and the economical use of plates, films, developers and accessories. If one ounce can be made to do the work of an ounce and a half—that one half ounce is worth saving! If the use of a 4 x 5 kit in a 5 x 7 camera may be used to advantage to save plates and developer, we will welcome such information in this column. Moreover, to show that we appreciate the efforts of PHOTO-ERA readers, we will give a six-month subscription to every contributor whose letter we consider of practical photo-saving value. We hope that readers of PHOTO-ERA will realize that this new venture depends upon them for success. It is a patriotic effort to help amateur and professional photographers save in every way possible. It has a direct bearing on reconstruction and deserves hearty support at once. Make every contribution as brief as possible—not over one hundred and fifty words. Paper and ink must be saved; and we ask contributors to bear this in mind. Now, let every reader get down to business and send his contribution not later than the twentieth of the current month.

Practical Saving-Methods

EDITOR, PHOTO-ERA:

Being much interested in your Thrift-Department, I submit the following ideas for your consideration. On many of my 5 x 7 plates I find that 4 x 6 or even postcard size sometimes makes a more pleasing print than the full 5 x 7. This is a great saving in paper and developer. Better than using the full 5 x 7 plate, however, is the plan of using a diaphragm or septum in back of camera so as to make two 3½ x 5 exposures on one plate. This is especially desirable if one does his own enlarging. I make "projection-prints" of different sizes from these small negatives just as good as from full plate-negatives.

In either contact printing or enlarging, I use test-strips to ascertain correct exposure so that I do not lose any prints from incorrect exposure. This is a saving in time and material, too, for if the exposure is wrong on print or enlargement, both time and material are lost.

Another. Discarded pyro tray-developer is an excellent water-stain for cabinet-work, especially if one develops backed plates, as I do, without first taking off the backing. Tank-developer is too thin for this.

Fraternally yours,

ALBERT M. SHAW.

THIS is the sort of "thrift-letter" that is truly helpful. Letters from practical amateur and professional photographers who *have done* or *are doing* things to save material, time and effort are valued highly. Let us have more letters like Mr. Shaw's.

A Stringless Package

DEAR MR. FRENCH:

In view of the conservation of cord and adhesive, also time and energy, in doing up flat packages (photographs and magazines) for transmission by mail or express, I beg to remind you of your valuable article on this subject, published in PHOTO-ERA several years ago.

I suggest that you reprint it, together with the illustrations that show clearly how the trick may be done. The matter certainly deserves a conspicuous place in your valuable thrift-department.

E. L. C. MORSE.

At the request of a number of new subscribers we give herewith the method of doing up a flat package without the aid of string or an adhesive of any kind, which was described in PHOTO-ERA five years ago.

The object, which must be flat and not exceed one-fourth of an inch in thickness, say, a photograph or a magazine, is enclosed in a sheet of strong wrapping-paper. The ends which project over the contents, say from one to two inches, are folded or tucked in as follows: while the package is held firmly between the body and the edge of the counter or table, one side of



NO. 1.



NO. 2.

the end uppermost is evenly tucked inside. The dotted lines of diagram No. 1 indicate its position inside the package.

The other projecting end is folded over towards the body and the edge sharply creased. It is then tucked inside and this brought flat and close to its fellow. The thumb and forefinger are then passed firmly along the outside edge to ensure close contact of both edges. The package is now reversed and the other end treated in exactly the same way. The dotted lines of diagram No. 2 indicate the appearance of the package with the position of the ends as they are tucked out of sight. The package is now virtually open at both ends and permits inspection by the post-office officials, in case it is sent by mail.

(Reprinted by request from PHOTO-ERA, May, 1915.)



ANSWERS TO QUERIES



M. R. R.—Enlargements may be made directly upon canvas for the use of artists, either for finishing direct or as a basis for oil-colors. The canvas must first be cleaned with a mixture of 1 ounce of liquor ammoniac (.880) and 4 ounces of methylated spirit, this being rubbed on with a clean rag or sponge until all greasiness is removed. Three solutions will then be required for sizing, sensitizing and developing.

SIZING

Distilled water.....	10 ounces
Ammonium bromide.....	35 grains
Ammonium chloride.....	10 grains
Potassium iodide.....	80 grains
Gelatine.....	60 grains
Dry albumen.....	1 ounce

Mix and warm the mixture until the gelatine is dissolved, but avoid overheating or the albumen will be coagulated.

SENSITIZING

Distilled water.....	6 ounces
Glacial acetic acid.....	$\frac{1}{4}$ ounce
Silver nitrate.....	$\frac{1}{2}$ ounce

Mix and filter.

DEVELOPING

Distilled water.....	5 ounces
Lead acetate.....	5 ounces
Gallie acid.....	30 grains

The cleaned canvas is sponged over with the sizing-mixture as evenly as possible. When dry it is ready for sensitizing. Take the canvas into a darkroom, pour over it some of the silver sensitizing-mixture and spread evenly with a pad of absorbent cotton. Wet or dry, it is ready for exposing in the same way as bromide paper, but it is slower than most bromide papers. The developer is applied with the sponge previously used for sensitizing, the residue of silver assisting development. The canvas is finally fixed in a bath of hypo, 1 ounce of the salt to each 5 ounces of water, and then thoroughly washed. During all these processes the canvas may remain on its stretcher.

E. L. C.—Almost every subject, no matter how commonplace, has inherent beauty provided the photographer has the ability to bring it out with the aid of proper viewpoint, lighting, weather-conditions and photographic technique. Although they are rare, we have seen a few subjects that we considered hopeless.

As to your own prints, the leading lines of the path tend to carry the eye toward the distant building, yet the highest light is on an unimportant summer-house at the left. Perhaps this might have been avoided completely by swinging the camera toward the right, or by waiting for another time of day, early or late, when the unimportant architectural detail was not in direct sunlight. As the path leads rather too far to the right, swinging the camera would have been beneficial in any case.

No. 2 suggests a thin negative, yet the sunlight-effect is excellent; also the composition as a whole and the facial expression. Had the little pictures on the wall been removed it would have simplified the background

and more surely concentrated the interest upon the figures. This is especially true of the lighter one. The background of No. 3 also is rather too confused with sections of furniture, which are never pleasing in a picture. Have you noticed that the exposure was made just as the boy winked, making it appear as if his eyes were closed—as they were for a fraction of a second? The highlights here are rather white and without detail. Perhaps Azo Hard X is too contrasty.

W. J.—The best enlarging-device for an Ica Atom B, it seems to us, would be either the No. O Graphic Enlarging-Camera, made by the Folmer & Schwing Division of the Eastman Kodak Company, or the Goerz Vest-Pocket Tenax Automatic Enlarger. Both employ the camera itself and its lens, and a little cabinet-work would be necessary to adapt the Atom; but nothing that your father, perhaps yourself, could not do easily.

D. D. D.—The practice of photography on the side—i.e., for revenue—may be done if it does not interfere with your regular calling. In your case—clerk in a hardware-store—you speak of your love of the art, with a desire to give up your present position and to practice photography professionally. Think twice, and hard, before you give up your present place. You say that experts pronounce your technique and composition flawless; but as you say that you have no business-experience, that the photo-business is overdone, that you are getting \$18 per week, are married, and twenty-two years old, we should advise you to hold on to your present position until you are cocksure that things will not go wrong when you abandon the hardware-business in favor of professional photography.

J. M.—Green tones may be had on gaslight and bromide papers by toning with vanadium chloride. The formula is:

Ferric chloride.....	10 grains
Oxalic acid (sat. sol.).....	$1\frac{1}{4}$ ounces
Vanadium chloride.....	20 grains
Nitric acid.....	50 minims
Water to.....	5 ounces

Then add, stirring the while, 10 grains of potassium ferricyanide dissolved in 5 ounces of water. Tone for one or two minutes, the longer the immersion the lighter being the green. Wash for ten minutes, and fix in a solution of two ounces of hypo and 200 grains of boric acid in 10 ounces of water; wash for ten minutes.

W. M. K.—The grain of negatives, a problem which sometimes confronts the user of small cameras, like yourself, in his attempts to print by enlargement, was taken up at some length by a feature article in PHOTO-ETRA for April, 1915, by E. J. Wall, F.R.P.S. He suggests the use of emulsions of medium speed, a rapid rather than a slow tank-developer and placing the negative to be enlarged in contact with opal glass, so as to reduce the scatter of light by the silver particles.

C. B.—The circular unglazed spots on your print, which is a glossy one, are due to unexpelled air-bubbles between print and ferrotype plate when squeezing it. They can be prevented by rolling the back of the print firmly and thoroughly; also the ferrotype plate should be flat and clean.



EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions and Conventions are solicited for publication



The Annual Pittsburgh Salon

THE Sixth Annual Pittsburgh Salon of Pictorial Photography will be held in the Department of Fine Arts of the Carnegie Institute, Pittsburgh, Pa., March 3 to 31, 1919, inclusive.

All prints submitted will be passed upon by an impartial and thoroughly competent committee of selection. Prints that possess the highest merits in artistic expression and execution will be hung.

As it has been our rule, heretofore, no picture is eligible that has been exhibited before in the United States.

Entry-blanks, containing full information and conditions of the Salon, may be obtained from Charles K. Archer, Secretary, 1412 Carnegie Building, Pittsburgh, Pa. Last day of entry, Monday, February 10, 1919.

Mr. Newman's Travel-Talks

ONE of the agreeable surprises of the current lecture-season is Mr. E. M. Newman's series of illustrated travel-talks on Wartime Europe. Not only are his narratives engrossing, but founded on absolutely indubitable facts, which facts in themselves are so stirring in their graphic realism, that no elaboration is necessary. The motion-pictures, made by Mr. Newman and his skilful assistant, Chas. I. Davis, by special permission of the U. S. Government, are of extraordinary interest and technical excellence. Many of the finest reels were made on the firing-line and in the trenches, in the midst of actual fighting. His "Wartime France" contains a number of motion-picture scenes which, for artistic composition and lighting, are simply remarkable. The picture of a couple of peasant-women tossing hay seemed like a painting by Le Breton, only that it was animated. Another, a barn-yard filled with pigs and poultry, looked as if executed by a master-painter, only the animals were in motion. Mr. Newman's diction, voice and delivery are on a par with his best pictures—exemplary.

As Mr. Newman intends to give his travel-talks in Chicago and other cities in the middle-west, very soon, we earnestly advise PHOTO-ERA readers to arrange to attend them, especially "Paris, 1918," "Wartime France," and "Wartime Italy." These have been so well received in Boston, that they are to be repeated by special request. Lovers of good pictures, be on the lookout!

William Ludlum as Musical Composer

AMONG our eminently talented subscribers is William Ludlum, of Mount Vernon, N.Y. Already known to PHOTO-ERA readers as a photographer, draftsman, poet and writer, he now appears as a musical composer of no mean ability, having written recently a patriotic song entitled, "When the Boys Come Back." The music is in march tempo, melodious, stirring and timely, words and music both by Mr. Ludlum. The piece, sold at 30 cents, is published by the Tullar-Meredith Co., 265 West 36th St., New York City.

Air-Bubbles in Camera-Lenses

EDITOR OF PHOTO-ERA:

WILL you please inform your contributors that air-bubbles in a lens are not necessarily a mark of superlative quality. See page 239, November PHOTO-ERA. A wart on a man's face does not bespeak nobility of character, just because Abraham Lincoln had one. Some kinds of glass cannot be made without bubbles, but the presence of bubbles does not guarantee the excellence of glass in general, nor even prove that particular glasses have been used in a given lens; just as the presence of a fish in the milk-can does not of itself prove that the can has been swimming in the river.

Very sincerely yours,

LOUIS DERR.

WE subscribe to all that this eminent physicist has stated; but, we venture to ask, what would he do as sales-manager of a large and reputable lens-manufacturer—as Mr. Dawes was, before he died, last October—when lenses of his firm's make were being constantly returned to him as unsatisfactory because of the numerous bubbles that they contained? Explanations, arguments and exchange of lenses were of no avail; so in sheer desperation Mr. Dawes made the statement, in an elementary talk on photographic lenses before the photographers' convention, in Springfield, last August—which talk was carefully revised and printed in November PHOTO-ERA—that bubbles in lenses constituted a proof of high excellence. He was right insofar as lenses made of inferior optical glass do not contain bubbles in large numbers—certainly not comparable with those in high-grade anastigmats. As a matter of fact, Schott & Genossen, the exclusive makers of optical glass of certain refractive indices which enter into the construction of certain well-known types of anastigmats, state in their catalogs that innumerable small bubbles are an indication of optical superiority.—[EDITOR.]

Picturing a Triumph of the U. S. Navy

IN response to inquiries for copies of the now famous historical picture, "We Are Ready Now!" by F. J. Mortimer, F.R.P.S., published in September PHOTO-ERA, we furnish carefully prepared engraver's proofs 10 x 12 inches and printed in artistic brown color until the limited supply is exhausted. The price is \$1.00 each, mailed safely packed and postpaid to any part of the United States.

British Lenses

SIR,—We hope the British optical trade will do something more than the co-operative advertising suggested by your correspondent. Their position is not comparable with that of the magneto-manufacturers of England.

A car is bought with a magneto, and, we imagine, the buyer rarely changes it. Most cameras are sold with single and R. R. lenses, and it is the business of the wideawake dealer to persuade his customers

either to buy a camera fitted with an anastigmat or to replace the less efficient lens with such a lens.

Here we look for the co-operation of the optical trade. The possibilities are enormous. Tens of thousands of Ensignettes and Vest Pocket Kodaks were bought early in the war, and there is little doubt that most of the buyers will keep up their photography after the war.

It is too often assumed that the British optical trade has only to think of German competition. Such is not the case. As soon as the supply of German and British anastigmats ceased we were offered French and American lenses in their place. We rather think that both will be imported in large quantities after the war.

The optical trade, for some reason, has never fully realized the value of publicity. Possibly it is because the firms in it are all old-established. The most vigorous advertisers, and we need hardly add, the most successful businesses, in other branches of the photographic trade are, comparatively, of recent growth.

Wellington, Illingworth, and Rajar, for example, all make excellent goods, but who will deny that a great part of their success has been obtained by their active publicity-methods?

To what can we attribute the steady decline in the use of platinotype and carbon prior to the war? Possibly the greater simplicity of the newer processes, as is generally stated; but we think that the real explanation lies in the fact that they were not in the hands of some of the younger firms of the type we have already mentioned.

Dallmeyer, Ross, Beck, and Taylor, Taylor and Hobson are all honored names among us who are old in photography, but there are thousands of photographers to-day to whom the names mean little or nothing. "Good wine needs no bush" must cease to be their motto.

Yours, etc.,

PHOTOGRAPHIC DEALERS.

A Letter in The Amateur Photographer and Photography.

Missed Opportunities

DURING the period of wild enthusiasm manifested throughout the country over the armistice, which spelled virtual peace, the motion-picture houses, everywhere, caught the prevailing spirit of patriotism and expressed it by honoring the Allied nations in the form of pictures and appropriate music. For instance, in one prominent theater the customary singing and screen-display of the Star-Spangled Banner was followed by a screen-picture of a flag that was colored so poorly that nobody recognized it until the orchestra began to play the Marseillaise. The blue was represented by a pale gray—the white fortunately being left blank—and the red by a deep, dirty brown. The Italian emblem was another disgraceful daub and looked familiar to only a few in the audience on account of the white cross in the center, but the accompanying music, though played well, meant nothing to most of the auditors. And the flag of Belgium—as if that poor country had not suffered enough already! No one would have thought that the national colors were black, yellow and red. There was no suggestion, whatever, of such things in the daring "bluff" projected on the screen, and the unfamiliar, though thrilling strains that followed provoked no applause.

The management's intended courtesy to the main Allied nations proved a failure, which would not have been the case had some truthfully colored slides been

provided. Here, then, was an opportunity—and it may not be too late—for some champions of the slogan "How to make my camera pay" to prepare a series of good, colored lantern-slides of the Allied flags and supply them to the many motion-picture theaters. It ought to be a profitable venture, and there are good available colors on the market.

A Word of Appreciation

MADISON, WISCONSIN,
October 15, 1918.

MR. W. A. FRENCH,
EDITOR, PHOTO-ERA,
BOSTON, MASS.

Dear Sir:—

Enclosed herewith find two dollars for another year's subscription to PHOTO-ERA.

I enjoy the magazine for its general make-up, fine illustrations and well-selected topical material, and relish keenly its editorial excellence. *All told, it is a book of individuality.*

With best wishes,

Very truly yours,

E. J. KOESTER.

G. W. Harris with the President

GEO. W. HARRIS, of Harris & Ewing, portrait-photographers of Washington, D.C., is the fortunate man that has been selected to accompany the presidential party to Europe. The American people may rest assured that our president will be pictured skilfully at the peace-table (provided that he will sit there), receiving ovations in London, Paris, Rome and wherever else he may be in evidence. Thus, for the benefit of present and future generations will be recorded scenes that are associated intimately with the treaty of peace concluding the greatest war of all history; and identified, personally and eminently, with these priceless photographs, will be an American photographer—George W. Harris, of Washington, D.C.

Sale of Halftones Published in Photo-Era

WITH the approach of the holiday-season, there will be considerable activity among photo-pictorialists in preparing prints for Christmas gifts and other purposes. Many amateurs have been printing some of their favorite subjects on postcards. With this end in view, several workers whose pictures have been reproduced in PHOTO-ERA have procured from us the original halftone-engravings which they are utilizing, advantageously, in many ways.

One amateur, of our acquaintance, is now using the halftone of one of his successful pictures published in PHOTO-ERA, several years ago, for the purpose of decorating his stationery (full-sized letter-heads) together with the legend, "Was awarded second prize by PHOTO-ERA, THE AMERICAN JOURNAL OF PHOTOGRAPHY."

If the halftone block is the size of a postcard, or even smaller, it can be used by a good printer in the preparation of picture-postcards. If the block should be a little larger than $3\frac{1}{4} \times 5\frac{1}{2}$ (size of a postcard), it can be easily cut down to the required size.

Any workers whose pictures have appeared in PHOTO-ERA during the last five years, or longer, may have these perfectly good halftone blocks at *one-half the actual cost* to us, provided they will procure them from us without delay.

"Photo-Era" in France

AFTER one of his travel-talks in Symphony Hall, Boston, Mr. E. M. Newman told the Publisher that when he visited Vincennes, near Paris, last summer, he noticed in the Laboratory of the U. S. Signal Corps the photographic literature consulted by the aerial photographers. Looking it over carefully, he discovered that it contained about six successive issues of but one periodical, and that one periodical was PHOTO-ERA!

Sample Copies of Photo-Era

In the past, we have always been glad to send sample copies of PHOTO-ERA in response to requests. To-day, conditions over which we have no control, have compelled us to discontinue this practice. In compliance with governmental regulations with regard to paper-conservation, we print enough copies of PHOTO-ERA to meet the demands of paid subscribers, photo-dealers, advertisers, news-agencies, and no more.

Requests for sample copies cannot be honored unless they are accompanied by twenty cents in stamps. Perfect copies of PHOTO-ERA will be sent promptly, postpaid, in response to all such requests.

"Flashlight for Portraiture"

Thomas Edward Hallderson

AT this time when the saving of time and material is so necessary for the photographer, the subject of flashlight takes on an added importance. When you waste plates by incorrect exposure due to changing daylight or when you waste both time and plates on account of re-sittings made necessary by late-afternoon light shortage, you are not only losing money for yourself but you are hindering the cause of your country by wasting its resources. Perhaps at no other time has it been so important for the photographer to put the spirit of the subject into his pictures as it is at the present time, when most of these pictures are being sent overseas to bring courage and cheer from the home folks to our boys over there. It is no exaggeration to say that this subject on this account has a direct bearing upon the winning of the war.

If you fail to get as good results with flashlight as you do with daylight, something is wrong with your manipulation or your equipment. We demand that the flashlight-portrait be made to stand on its own merits as against pictures made with any other kind of light and if it is not as good we would not recommend its use for portraiture at all.

In the matter of speed, flashlight has a remarkable advantage over daylight for portrait-purposes. Expression is invariably a fleeting one and does not "stay put." You have to lure it forth, as it were, and catch it on the instant or it is gone, perhaps not to return again during the sitting. Is it necessary to argue that the high-speed flashlight-exposure, measuring one-seventieth of a second, is much superior for this purpose over the time-exposure of daylight? You may say that you are very successful in getting expressions when using this slower medium of daylight, but if this is so how much more successful could you be with this high-speed light and how much more easily could you get your results.

To illustrate this we have but to take the case of the motion-picture. Here we have as close a representation of life as it is possible to get in pictures and this is obtained entirely by high-speed exposure.

If the operator is to do his best in this matter of

obtaining good expression, he must be free to devote his main attention to this factor of the operation and not be constantly hampered by the necessity of having the subject hold the expression through a period of time. With flashlight it is simply a matter of drawing out the expression and snapping it when it appears. As for children the advantage is so obvious that a large number of the most progressive photographers never think of using other than flashlight when photographing them.

But if the matter of fast exposure is important, the matter of full and correct exposure comes next in rank of importance. If I were to name the greatest single cause of failure of photographers the country over, I think I would say it was under-exposure. Many men habitually under-expose, thinking it the only way they can get speed enough to catch expression and avoid moves. This is so true in home-portraiture that one could almost say without fear of contradiction that all those who do not use flashlight in their work accept under-exposure as a necessary accompaniment to this kind of portraiture. The only proper test for full exposure is to show detail in the deepest shadows and to do this requires considerable more time and light than is available under the average conditions with daylight. Under-exposure leads to many gray defects in the picture, the most noticeable perhaps of which is the harsh contrast that such pictures show, to say nothing of the loss of detail in the shadows. Another difficulty arising from under-exposure is the prominence that it gives to flesh-markings such as freckles. Few understand that to get enough exposure into these brown spots a considerable more time must be given and unless this is done the retouching will be much more difficult and a good print from such a negative is out of the question under any circumstances.

With flashlight this great trouble of under-exposure is entirely eliminated, and what is more, correct exposure is almost automatic and therefore absolutely certain when one has once determined from a little experience what the correct exposure should be. Three factors determine exposure in flashlight, *i.e.*, the amount of powder, the stop of lens, and the distance of lamp away from sitter. With these the same at any two occasions, the results will be the same. With daylight the amount of light varies from hour to hour and from day to day and thus renders proper exposure a matter of guesswork that often trips up the most experienced operators.

When we come to the quality of flashlight as determined by the results obtained from it in pictures, we find that many think it has some special quality which gives to flashlight-pictures a disagreeable appearance. This is perhaps the error most frequently met with and the one hardest to combat of all the many errors that have gained currency about flashlight. That this is an absolute fallacy has only to be explained scientifically to be shown so. Obviously all light is the same for photographic purposes except in actinic power and orthochromatic value. Its very speed proves the wonderful actinic power of flashlight and in the matter of rendering color-shades correctly it is perhaps every bit as good as daylight and many claim it is better. So then if peculiar results are obtained with it, the cause must be due to the way it is handled and not to any inherent quality of the light itself.

To illustrate this best we have but to take sunlight and see what various effects it will produce in the picture when taken in its various stages from the case where it is used directly on a clear day to where it is used as modified by the skylight in the studio. Direct

sunlight gives harsh, sharp shadows as everyone who has used a kodak knows. Let a cloud pass over the sun and you will get a soft, even light over the whole subject. From this you go into the studio and use the sunlight diffused as with the cloud outdoors, but with the added advantage of having it all come from one direction and from a certain position relative to the sitter, and your picture will give the lighting result you seek in a portrait. Flashlight is no different in this respect from the sun except that for the cloud you use a screen and for the skylight a scientifically constructed lamp. There is no magic to it except that you use certain principles in connection with its control that are not unlike those used with daylight and that you use the proper equipment in the form of a modern flashlamp.—(*Lecture before the Missouri Valley Convention.*)

A Photographer in a Flanders Cellar

At last Monsieur l'Apothicaire has had to shut up shop. For almost four years he has braved bombardments by land and air, always managing to mend his roof or repair his shattered door. His windows have been paneless for a great many months. The last fury of shells has done the worst. Not only has the roof gone and the door and windows; the little shop stands looking out across the Place a pyramid of bricks and mortar and broken bottles. From its pitiable mound it faces what used to be one of the sights of the old town—a row of fine Spanish houses dating from the days of the Inquisition. They, too, after having withstood the weight of turbulent years, have bent their proud heads and now lie humbled—a mass of shattered stone.

Monsieur l'Apothicaire was a man of distinction. Although by trade a mixer of drugs, he was by inclination a photographer, and it is doubtful whether there could be seen a finer collection of photographs depicting modern war on civilians than that which, until a few days ago, stared across the silent Place from its glassless case in front of the little shop. They pictured bursting shells falling among a clump of cottages, crumbling cathedrals, bombs bursting on domestic barges which dot the Flemish canals; royalty giving a sustaining send-off to refugees entraining for strange lands; royalty at home in a modest villa among the sand-dunes; the subterranean dwelling-place of a colony of nuns, which like the small shop in the Place no longer exists. A strange photographic melange of interest, gruesomeness and horror caused by the employment of modern science.

He was a picturesque figure. He used to go about on a bicycle, his pale, cadaverous face, with its black beard, appearing even more pale above the folds of the long ebony cloak which hung down from his stooping shoulders. A silent man, with deep-set, introspective eyes. For the past three years, his experiments in chemistry and photography have taken place in the atom of a cellar under the tiny shop. There, in that stuffy laboratory, lighted by a single flickering candle, Monsieur played with his test-tubes, and at length found a solution which he offered to his Government as a counter-irritant against the fumes of gas. It was accepted. From the acceptance sprang a gas-mask factory, which gave employment to some hundreds of refugees huddled there behind the line of fire. This, too, has had to be evacuated. . . .

The trains which snort their laborious way toward the south of France are daily carrying off the peasants who through four years of war have clung stubbornly to their cabbage and potato plots, and the refugees who

endured a wretched existence in shacks, lofts and hovels, rather than leave their own beloved land.

With them has departed Monsieur l'Apothicaire, with his bicycle and his long raven cloak, his camera and collection of photographs, which will ever remain a tangible testimony to the hideousness of modern war.

MARGARET BELL, in the *Daily Express*.

Notice to Librarians

MANY librarians and subscribers, desiring to bind the first volume of the year of PHOTO-ERA, and not finding the index for same in the June issue, as formerly, do not seem to be aware that since 1910 the index for the entire year—two volumes of six issues each—has been, and is now, published exclusively in the December issue of each year.

A One-Solution Intensifier

ACCORDING to the chemist of the Rajar Limited, the mercuric-iodide one-solution intensifier should find a place on every busy photographer's shelf. It will readily give considerably increased contrast to a thin negative, is particularly safe to use, and its advantages are as follows:

1. A ready-at-hand solution that keeps well, and can be used over and over again.
2. If the negative contains traces of hypo, no harm will be done.
3. Can be used locally to intensify parts of a negative.
4. Intensification can be removed, if desired, by simply placing the negative in the fixing-bath.
5. Local reduction is easy. Parts of the intensified image can be painted over with a brush charged with hypo-solution.
6. It is reasonably permanent and cannot give stains.
7. Can be used to give "sparkle" to lantern-slides.

To make up the solution, take say 100 grains of mercuric chloride, crush and place in a small linen bag. Suspend this in a 20-ounce wide-mouth bottle near the neck, and fill the bottle with hot water. When dissolved (it will take some time), take out the bag and burn it. Now add a few crystals of potassium iodide gradually, shaking the bottle all the time. The solution assumes an opaque salmon color, and the iodide must continue to be added cautiously until the solution becomes fairly clear and transparent, but with still a trace of red color left. Add no more iodide, but drop in a small crystal of hypo about the size of a pea and the intensifier is ready to use.

The negative, after the usual fixing and washing, is immersed in this bath for a few minutes, washed and dried. To ensure permanence, the negative—after being intensified and washed—can be placed in any developer for a few minutes, washed and dried, but for ordinary work this is not absolutely necessary. The negative may become yellow in time, but this does not affect its printing-quality, and it is possible almost to discharge this color without altering the contrast by placing the plate in a very weak solution of hypo.

Our friends, the photo-finishers, will find the solution useful for the thin and under-exposed negatives. Commercial photographers will find it useful for strengthening parts of interior negatives, and a negative of a group or a full-length portrait, made by electric or flash light, can have the weak foreground improved by using the intensifier in a tilted dish.



LONDON LETTER

CARINE AND WILL CADBY



WE were bound to the Royal Photographic Society's Exhibition. What used to be the short journey to town had been occupied with reading of the Italian successes, and the disintegration of the Austro-Hungarian Empire. Big thoughts, induced by the mighty world-happenings, were naturally predominant in our minds, and it seemed somewhat of an anti-climax as we turned into the rooms of the Royal Photographic Society in Russell Square. Perhaps, this feeling was intensified because we came first to the Pictorial Section. Whether any pictorial collection would have appeared adequate at that moment, we cannot say; but, surely, this particular one failed entirely to hold our attention, and, although later, we gave it more careful inspection, it still seemed, and we are afraid we must confess, really was, very uninspiring as a first-class exhibition. No doubt, there is some good work to be found, notably a few exceptional landscapes; but, like last year—only, alas, more so—there is such a big proportion hung that is certainly not worthy; and it was with real relief that we turned to a room devoted to the photographic side of radiography. These rather large-sized negatives were shown by reflected light, and included X-ray pictures of many wounded limbs. Here, at least, we were in touch with reality—the sad reality of the war, and, being as we are, quite ignorant of this particular science, we could only wonder at the marvelous building up and repairing of bones carried out by the surgeon that was depicted so clearly and boldly by the X-ray negative, in spite of bandages and living flesh that hid the skilful work of the doctors from all but the uncannily, far-seeing X-rays.

But where it seems that this exhibition is strongest, is in Section III (Scientific and Technical). Some of the enlargements in this section of microscopic subjects, many with an enormous degree of amplification, are as strong, sharp and real as direct prints. This was particularly noticeable in the photograph of an alarmingly sized flea, and one could only be thankful that this evil monster, nearly a foot tall, with its powerful muscles and punishing proboscis, does not really strut the stage of life "to scale"! The pseudo tracheal tubes of the tongue of a blow-fly are exposed to sight in a wonderful set of photo-micrographs by Dr. Rodman, who is responsible also for "A Plague-Infected Flea of the European Rat" besides other wonderful and minute subjects. But the singular thing about many of these photo-micrographs is that they often possess real beauty of design, and are admirable to look at, sometimes, for their mathematical, and often for their decorative, lines, and quite apart and distinct from their legitimate interest, which of course would at once attract the scientific photographer. It must be confessed that we, sworn devotees of pictorial photography, were nevertheless far more interested in some of the beautiful photo-micrographic designs than in anything to be found in the Pictorial Section proper. The reason for this, no doubt, was that many of the designs, as designs, were new to us; they gave one a mild sensation as when one meets a fresh idea, a cheering, invigorating twinge, that we looked for in vain among the pictorials.

The collection of official war-photographs (lent by the Ministry of Information) adds considerably to the interest of the show. They are, for the most part, as

good as, and no better than, the many war-photographs to which we have become accustomed. But beyond this, a few seemed to possess an intimacy of view and handling that is unusual. They had all the charm of apparent snapshots, and yet were crammed full of life and movement that certainly showed its best side to the camera in a way that snapshots can hardly ever secure; and yet there was not the slightest suggestion of posing, and we left this group of forty-six prints with the feeling that we had been really allowed a vivid glimpse into the life and surroundings of the veteran troops.

The Imperial Dry-Plate Company, one of our most energetic and important makers of photographic plates, has issued its regular handbook for the year. The universal paper-shortage is reflected in its reduced number of pages, and the illustrations are not so numerous as in former years. The chief feature is a double-page chart setting forth, in simple language and under different headings, the signs of under, over, and correct exposure. This, used in conjunction with the page of various grades of negatives on transparent paper—issued in last year's Handbook—forms a very complete guide to correct negative-making. These efforts of manufacturers are all in the right direction, and might be followed with advantage by other makers of complicated photographic materials; for none know better than the manufacturers, the possibilities that lie dormant in their products, and they surely should be the safest guides as to the attainment of the best technical results. It remains for the skilful and experienced photographer to modify them to suit his own particular requirements.

The Gerard Film ("My Four Years in Germany") is drawing big crowds in London, or rather let us use the past tense and say, was; for since the serious outbreak of Influenza, the public has not been very keen on crowds.

We have not yet seen the much-talked-of Propaganda film by Hall Caine, but do not very well see how anything can out-propaganda Mr. Gerard.

Just now, when the details of the inhuman and ungenerous treatment of British prisoners, in Germany, have been made public, it was natural that intense interest should be shown in that portion of the film that deals with this subject. Knowing how absolutely true to life these scenes were, we felt that they were almost too painful and moving to be witnessed calmly. On the occasion we were there, some members of the audience were too affected to remain through these prison-scenes. We were told by an official that one of them was a woman whose son had been shot while helping a fellow-prisoner to escape.

For our part, being photographers, we tried to suppress our emotions by concentrating our thoughts on the technical interests of the film. One of these gruesome scenes shows prisoners being attacked by dogs and we noticed a fierce-looking animal wagging his tail. The film was immediately switched off, probably before most persons had noticed it. But to us it brought comfort, and we let our harrowed minds dwell on the fact, that, at least, that particular dog was only having a romp though it was fierce and rough enough to give the illusion of savagery.

Arranging Allied Flags

EVER since the United States entered the war and our relations with the Allied nations assumed the character of true and intimate friendship—on account of the supreme sacrifices and suffering endured by the Allied soldiers, indiscriminately—we have viewed with increasing interest the many photographs that depict beautiful displays of Allied flags including the "Stars and Stripes." Being asked to express an opinion regarding the propriety in arranging them, it is our belief that courtesy to France, the greatest sufferer in the present war, should be shown on all possible occasions. For instance, in grouping the flags of the Allied nations, would anyone actuated by generous, chivalrous impulses, do otherwise than place the emblem of France in the center and those of Belgium and Britain at the sides, with "Old Glory" deferentially subordinated?

How often is the spirit of patriotism expressed by an ostentatious display of three flags, those of France, Great Britain and America, but the "Stars and Stripes" occupying the most prominent place. Those who are responsible for such an arrangement, which is thoughtless, if not discourteous, particularly with so many French heroes temporarily in our midst, ought to remember that the American soldiers at the front, and those who are occupying enemy-territory, are second to none in gallantry, courtesy and forbearance, and those who remain at home cannot afford to manifest a lesser degree of true chivalry towards beloved France and her sons who are within our gates.

Our attention has been called to a remarkably artistic and judicious arrangement of Allied flags in one of the windows of the Standard Sanitary Manufacturing Company, of Boston. In the center is placed the tricolor of France, and, alternating and in the order named, the flags of Belgium, Britain, Italy, Serbia, Roumania, Portugal, Canada, Australia, India, Rhodesia, New Zealand and—America. The Copley-Plaza Hotel flies three immense flags, widely apart, high above the structure—France in the center, Great Britain at the right and "Old Glory" at the left. Otis Clapp & Son, Inc. display a similar grouping of Allied flags, save that the place of honor is given to Belgium. Any PHOTO-ERA reader, noting a like courtesy extended to an Allied nation, will kindly report it to the Publisher and receive his sincere thanks.

An Ingenious Darkroom-Lamp

OUR overseas cotemporary, the *Photo-Revue*, contains a description of a very ingenious form of electric lamp for the darkroom, in which one glass-cell acts both as battery and color-screen. The wooden lid of the cell carries, projecting downwards from it, a zinc and a carbon-rod, as well as a test-tube-shaped vessel, in which is a small 2-volt electric lamp, connected up with the two rods. The liquid contents of the glass-cell consist of water to which are added potassium bichromate, sulphuric acid, and fuchsine, in the order given. The acid must be added slowly, to prevent any violent reaction, which might scatter the solution. To light the lamp, all that is necessary is to lower the lid, so that the tube containing the lamp, and the carbon and zinc-rods are immersed in the non-actinic liquid. When the battery is exhausted, and the solution is to be renewed, the vessel, after being emptied out, is left for some hours with hydrochloric acid to clean the glass.



THERE are some merchants that are so supercautious that they refrain from trying out a new idea lest it be copied by their competitors.—*The Spatula*.



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

HOW MOTION-PICTURES ARE MADE. By Homer Croy. Profusely illustrated. 366 pages. Large octavo. Price, \$4.00. New York, U. S. A.: Harper & Brothers.

"How Motion-Pictures Are Made" is the most pretentious book on the subject that has yet appeared. The author has covered the ground thoroughly. He describes the history of cinematography, beginning with the "Wheel of Life," a toy used to simulate the successive movements of animals in action, followed by similar devices—the motorscope, the vibroscope and the zoetrope. Then came the really first step forward in the science—by the indefatigable Edward Muybridge, in 1878—the making and projection of animals in motion by a battery of twenty-four cameras, each exposure showing an advance in motion, followed by a perfection of the method, by Dr. E. J. Marey. Then came Thomas Edison, with his Kinetoscope (a peephole machine) in 1893, aided by George Eastman with his flexible film; but in 1894, C. Francis Jenkins, an American, showed motion-pictures for the first time in the form that we know them. Improvements in projection-apparatus by Edison, and by Lumière, in France, followed quickly, until we came to know motion-pictures in their present-day perfection. Homer Croy then takes the reader behind the scenes and not only shows him how an intricate photo-play is prepared, but reveals to him the many secrets, mysteries and stunts that startle a motion-picture audience. Thus, he explains how a man lying in the street has both his legs cut off—and replaced; the self-writing pen; self-spelling words; a person jumping or falling from a great height; a person jumping from the ground to the top of a tree; an actress shedding tears; flowers and plants in the act of growing; animated cartoons; trick-pictures; pictures of the present war; spirit-photographs; pictures in natural colors; thrilling railroad and automobile accidents, talking-pictures, and subaqueous motion-pictures.

The book is exceedingly well written—exemplary English—in a clear and fluent style, popular rather than technical, so that it makes an irresistible appeal to the large public interested in the preparation of motion-pictures as they appear on the screen. The typography and illustrations are above criticism, and the book should be owned by every photographer and lover of motion-pictures.

Hold your Liberty Bonds

THERE is a notion very prevalent in the United States that when the American soldiers return home they are going to feel very kindly toward the subscribers to the Liberty Loans. Liberty Bonds are incontrovertible evidence that the purchaser has supported his Government, has supported our soldiers abroad in this war. Keep that evidence in your possession until the boys come home.



RECENT PHOTO-PATENTS

Reported by NORMAN T. WHITAKER



THE following patents are reported expressly for the PHOTO-ERA magazine from the patent-law offices of Norman T. Whitaker, Whitaker Building, Washington, D. C., from whom copies of any one of the patents may be obtained by sending fifteen cents in stamps.

Catch for Camera-Backs, patent, number 1,278,323, granted to William F. Folmer, Rochester, N. Y., Assignor to Eastman Kodak Company, a Corporation of New York.

1,278,526. Projector and Camera-Color Control. Charles Wehlemesser and William Wenderhold, New York, N. Y., Assignors to Polychromatic Film-Corporation, a Corporation of New York.

Frederic Eugene Ives of Philadelphia, Pa., invented Color-Photograph or Film and Method of Producing Same, patent, number 1,278,668.

Photographic Camera, patent, number 1,278,692, granted to Einar Leshbrandt of Philadelphia, Pa.

Henry T. Sublisky of Cedar Rapids, Ia., has just been granted patent, number 1,279,607, a Film-Holder.

A Film-Carrier patent, number 1,279,762, has been granted to Earl W. Rossman and Lester S. London, New York, N. Y., Assignors of one-fifth to Monte London, New York.

Philip W. Tierney of Rochester, N. Y., has been granted patent, number 1,279,788, Assignor to Eastman Kodak Company, a Corporation of New York.

Joseph Goddard of Rochester, N. Y., has invented new Camera-Mounting, patent, number 1,280,013, Assignor to Seneca Camera Manufacturing Company of Rochester, N. Y.

Reuben Newman, of New York, N. Y., has invented a Means for Developing Films, patent, number 1,277,462.

1,277,461. Fan-Attachment for Cameras has been granted to Frank Z. Murazen of Dubois, Idaho.

Frederick N. Thimble of Long Island City, N. Y., has been granted patent, number 1,277,665 on Film-Box.

Andrew Henry Rockier of Boise, Idaho, has been granted patent, number 1,277,756 on a Camera.

John Frederic Haworth of Edgeworth, Pa., has been granted patent, number 1,277,919 on Camera.

An indicator for Cameras, patent, number 1,278,080 has been granted to Henry Joseph Kubiak of Philadelphia, Pa.

1,280,240. Photographic Shutter invented by Rudolph Klein and Theodor Brueck of Rochester, N. Y., Assignors to Ilex Optical Company, a Corporation in Rochester, N. Y.

Automatic Photographing Apparatus has been invented by Arthur Latter of New York, N. Y., patent, number 1,280,252.

Patent, number 1,280,308 on Photographic Frame for Printing on Metal has been invented by Frank C. Sampson, Chicago, Ill.

Patent, number 1,282,177, Method of and Apparatus for Making Panoramic Pictures has been granted to George Stevens Blankenhorn, Milwaukee, Wis.

A Photographic Camera patent, number 1,282,373, has been granted to Clarence P. Browning, Brooklyn, N. Y.

A Photographic Shutter has been invented and

patented by Rudolph Klein and Theodor Brueck, Rochester, N. Y., Assignors to Ilex Optical Company, Rochester, a Corporation. Patent number is 1,280,240.

Frank C. Sampson, Chicago, Ill., has received patent, number 1,280,308, a Photographic Frame for Printing on Metal.

A Film-Mask for Cameras patent, number 1,280,958, has been issued to Richard Stuart Burdette of San Antonio, Texas.

Julius Henry Stean of Worcester, Mass., has been granted patent, number 1,281,092, a Photographic Printing-Device.

Patent, number 1,281,175, an Automatic Camera-Locking Device has been issued to Alexander F. Landefeld of Mansfield, Ohio.

Patent, number 1,282,331, a Vignette, has been issued to Alfonso J. B. Vera, Chicago, Ill. Assignor of one-half to Charles Kemler, Chicago.

Frederick B. Thompson of Chicago, Ill., has invented and received patent, number 1,281,711, a Photographic Film-Treating Apparatus.

Patent, number 1,281,714, a Multicolor-Film has been issued to John Edward Thornton, West Hampstead, London, England, Assignor to John Orvden O'Brien, Manchester, England.

Gertrude H. Parish of St. Paul, Minn., has been granted patent, number 1,281,998, a Camera.

Development Papers—An Experience

DURING the war there is an almost universal use of development-papers, and, naturally, photographers are eager to glean all the information that they can about them with a view to obtaining the best results, which fact tempts us to state the following small experience of our own. A number of exposed prints were to be developed. The first two came up splendidly and were of first-class quality, but the next began to stain before the image was strong enough to enable the print to be removed from the solution, though the latter was not nearly exhausted or showed any slowness. However, the solution was thrown away and a fresh lot taken, which worked very well with the first print; but with the next, the same staining-action occurred as in the preceding case. Happening to notice which prints were spoiled and noticing that they were from the same negative and upon the same grade of paper, we were enabled to hit upon the cause of the trouble. Two well-known grades of paper were being used, *each by a different maker*, and it was when the spoiled print was placed in the solution *after* the print on the other grade of paper that the stains occurred. Apparently, something in the composition of one maker's paper brought about the effect described when the following print was upon a different paper. A careful test with the two papers, again using fresh solution, showed exactly the same result as in the previous cases, though when developed in separate solutions each paper gave first-class prints. Possibly, owing to wartime conditions, emulsions have had to be altered or modified in some degree. At any rate, photographers will do well to be on their guard in respect to possibilities of this kind.—*British Journal*.



WITH THE TRADE



Restrictions Modified on Cooper Hewitt Lamps

THE Cooper Hewitt Electric Company, Hoboken, New Jersey, informs us that soon after the preparation of its one-half page advertisement in the December 1918 PHOTO-ERA, the Government modified the prevailing restrictions because of the armistice. Unfortunately, it was too late to make the necessary corrections in the advertisement for that issue. Therefore, we call special attention to the fact that orders for Cooper Hewitt lamps can now be accepted as heretofore.

Is This True?

From the Berlin *Tageblatt*, April 26, 1918.

"If the despised Yankee nation think they are going to win the war and force Germans out of foreign markets there is nothing to indicate this sentiment in their local and foreign advertising. Many of their advertising-agencies have closed their doors through lack of patronage. Their much-talked-of captains of industry have cancelled advertising-contracts everywhere. Germany and German merchants have increased their advertising-space in neutral markets and at home. It pays to advertise in war as well as in peace. The far-sencing merchant never stops advertising."

Stopping Advertising

GOOD will, a merchant's greatest asset, might be compared to a pool, or stream of water, which if not constantly replenished will disappear gradually and entirely. By good will we do not mean only the kindly feeling his neighbors may have for a photo-dealer, but the force that would keep his customers coming to his store day after day even if he himself some morning should drop through a knothole in the floor and never again be seen. The one great creator of this force is advertising, not necessarily newspaper-publicity, alone, but advertising in some form or another. Some of the soap- and food-manufacturers have spent millions of dollars in cold cash in acquiring good will through newspapers and magazines and have found that, unless the stream of dollars is kept flowing uninterruptedly, their good will evaporates and their sales fall off with a rapidity that betokens disaster. What is true of the big business, is true of the photo-supply store, although its proprietor may not realize it. If he stops advertising—that is, making his store and his goods better known—his good will loses in value and his business begins to evaporate.—*The Spatula*.

A Tip to the Trade

TO THE EDITOR OF PHOTO-ERA:

Sir:

In an article in the December issue, under the heading, "Begin Photographic Reconstruction Now," the point is made that our American camera-manufacturers must do better than they have in the past in order to hold the market against British competition. This is worth thinking about.

Of course, no man with self-respect would now buy any German goods, however cheap or excellent. But

Americans would be inclined to buy British and French goods, especially if they were a little better or cheaper than American. That attitude of mind is merely sentiment; but sentiment is worth much in business and should be reckoned with.

So far as roll-film cameras are concerned, the American manufacturer need fear nothing—ours are indisputably the best. As regards plate-cameras, we are somewhat behind in the race—not very much, but perceptibly so with a keen buyer. As a people, we have not yet learned the advantages of a plate-camera: ability to see the picture on the ground-glass before making it; use of plates of various speeds for different subjects; possibility of using orthochromatic or panchromatic plates or ordinary plates, as one finds occasion; adaptability of plates to intensification and reduction-processes, etc.

But as a people, we are now coming to appreciate the advantage of a small camera and, before long, we shall learn to appreciate the advantage of the small plate-camera. The latter undoubtedly is the coming camera, that is, I mean for all serious workers—all those who have gone beyond the indiscriminate snapshot-stage of photographic evolution.

Now, if any one will take the trouble to compare British camera-manufacturers' catalogs with those of American manufacturers, he cannot fail to notice that the British are strong on enlargers, whereas the Americans are woefully weak.

It is true that we have enlargers, but (I trust that my loyalty will not be impugned) they are expensive, clumsy and inadequate; or else they are babyish affairs meant for very limited work. Taking the catalog of British manufacturers issued before the War—and it is fair to assume that prices will gradually fall to that level after the War—I find that one could buy a first-class enlarger, 4 x 5 size, without objective, for about \$30.00. The carrier is provided with rising, falling, rotating and tilting-arrangements. The light in the lamp-house is regulated from the outside; the house is well ventilated and light-tight; focusing is accurately done while close to the enlargement. Frankly, we have nothing that can touch that either in price or scientific construction.

And frankly, too, our manufacturers must produce the equal—and they can—or else they will lose their trade. We Americans have learned something about thrift as a result of the War, and that means that we are not going in for large cameras when small cameras will do the work just as well. And—this is my point—that means that we shall begin to call for good enlargers at a reasonable price. Anybody familiar with the spirit of the times, speaking photographically, can see the demand for enlargers as the result of the gradually growing demand for small cameras. The first manufacturer that puts a really good enlarger on the market at a fair price is bound to make money. Isn't it about time for some of the brethren in the back-row to wake up and give the people what they want?

E. L. C. MORSE.

A good window-trim is often spoiled by a dirty pane.
The Spatula.

PHOTO-ERA

The American Journal of Photography



BOSTON, U. S. A.

FEBRUARY, 1919

20 CENTS

The Gift of Gifts at All Seasons



Ansco V-P No. 2

TO the soldiers of the American Expeditionary Forces no gift can take the place of a camera—and now that hostilities have ceased and the censorship lifted, Ansco Cameras will be called for more than ever.

That the Ansco V-P No. 2 is the choice of the boys "over there" is well shown by the following letter from one of them:

Approved by War Dept.
Approved by P. O. Dept.

AMERICAN EXPEDITIONARY FORCES
CHRISTMAS PACKAGE COUPON

FOR: Athey, E.C. (Name)
Sgt. Maj. (Rank) 153024 (Army Serial Number)
Att. Casual Co. # 1, General Headquarters, APO 706. (Name of Service)

PASTE THIS COUPON ON THE PACKAGE

DIRECTIONS: One Christmas package not heavier than 3 pounds and not larger than 4 by 4 by 3 inches will be carried free from Hoboken, N. J., to each American soldier in Europe. Standard boxes of these dimensions will be furnished, upon application, by local chapters of the American Red Cross in the United States. Christmas packages must not contain perishable articles, or any articles prohibited by the postal laws from transmission by mail. PACKAGES NOT CONFORMING TO STANDARD FURNISHED BY RED CROSS WILL NOT BE ACCEPTED. This coupon is authority for any postoffice to accept on or before November 20, 1918, a Christmas package consigned to the above regulations for the soldier named herein. Postage to Hoboken, N. J., must be prepaid.

THIS COUPON MUST BE PASTED ON THE PACKAGE TO SECURE ITS TRANSMISSION

U. S. GOVERNMENT PRINTING OFFICE: 1918.

ANSCO COMPANY,
Binghamton, N. Y.

Somewhere in France
October 4, 1918.

Gentlemen:—The enclosed cut of an Ansco Camera, together with Money Order for \$27.50 and Christmas package coupon, tells what's wanted—Ansco V-P No. 2, with F 6.3 lens. Stick the coupon on tight. No writing necessary.

Sincerely,
EDGAR C. ATHEY.

ANSCO COMPANY, Binghamton, N. Y.



THE LOTUS
LOS ANGELES SALON
GEORGE ALEXANDER



PHOTO-ERA

The American Journal of Photography

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Vol. XLII

FEBRUARY, 1919

No. 2

The Second International Salon at Los Angeles

A Series of Impressions

ARTHUR F. KALES



THE art-loving public of the Pacific Coast has had the opportunity to view several very creditable exhibitions of pictorial photography; but the Second International Salon, held under the auspices of the Camera Pictorialists of Los Angeles, presented without doubt the finest and most representative collection of pictorial photographs that this section of the country has yet seen. Thanks to the foresight of the salon-committee in sending out announcements and entry-blanks several months in advance, the Salon had a truly international flavor—presenting, as it did, prints from England, Canada, Australia and Japan in sufficient number to offer a pleasing contrast to the American work.

The gallery of the Museum of Fine Arts is admirably adapted to a display of this kind, and the show as a whole made a decidedly pleasing impression, due largely to the care and thought evidenced in the selection and hanging of the prints.

An analytical review is too often a glorified synopsis of the catalog—a sweet-scented *résumé* of those present, with a metaphorical pat on the back for one and all, down to the janitor. But space forbids and inclination vetoes this time-honored custom of damning with faint praise, and so only those prints which reflect distinct personality and artistic handling have been selected for comment.

As was to be expected, the Pacific Coast was well represented, particularly the California contingent. The western pictorialist is a restless soul. He photographs just as strenuously as he does most other things—at the rate of a mile a minute. He is a prolific creature and his results too often reflect his method of attack, for they are frequently haphazard and common-

place. He has never been known to hibernate through the winter in darkroom or studio and to emerge in the spring with perhaps three or four choice prints. There is too much ground to be covered and life is too short. Where are the prints of yesteryear? He knoweth not and careth less—that is, at least, with one notable exception—Mr. W. H. Rabe.

Mr. Rabe's work is never hurried and his prints are expressive of careful consideration from conception to completion. "Dancing Trees" and "The Promenade" are excellent examples of his work, and the latter is particularly interesting as the negative was made about twenty-five years ago, and did not make its debut as a full-fledged exhibition print until last year. How many of us could comb our old negative-piles to such good purpose? The test of time is truly an acid one and here is a picture of a past vintage, yet one modern in vision, strong in values and composition, and thoroughly sound in conception as judged by modern standards of placement and pattern.

John Paul Edwards and his friend and co-worker E. M. Pratt show some very delightful prints in their characteristic style. The many who have seen Mr. Edwards' "Strollers" must agree to its charm. No chance, lucky shot this; but the result of unerring judgment in grasping and subordinating elusive opportunity. Mr. Pratt's "Spreckels' Sugar Refinery" is a fine thing—much bigger than its title would indicate. All of the power and thrill of industry are there; but Mr. Pratt robs his subject of all its poetry by a literal and commonplace title.

"Ho! Charon," by Dr. Percy Neymann, is a dramatic outdoor nude study, well titled and well rendered. It is by far the strongest work Dr. Neymann has yet offered.

Otto Schulte is a spasmodic worker; but there



THE PROMENADE

W. H. RABE

LOS ANGELES SALON

have been only few Salons in recent years that have not had at least one strong print from him. His "By the Lake—Foggy Morning" is a fine bit of design which could easily have been marred by inexpert handling. It is a difficult subject and a new presentation of the California Eucalyptus.

Laura Adams Arner is another well-known Californian whose work is distinctly individual. Her "Islanders" has had a long and honored exhibition career, but, like all really good works, time has enhanced rather than detracted from its charm. It is a wonderfully fine bit of mural decoration which displays even more than ordinary traces of hand-work; but in this case the end more than justifies the means.

The Camera Pictorialists of Los Angeles, under whose direction the Salon has been held, have furnished a strong collection of prints that are distinctive in viewpoint and rank with the best in the show.

The older and more experienced members have submitted examples of their best work, all

of which are worthy of comment, but the efforts of four new members, Messrs. C. J. Marvin, Geo. Brookwell, R. W. Brown and Ford Sterling, are entitled to first consideration on account of the promise they hold for bigger and better work in the future.

Of this group, a high-key "portrait of Mae Murray," by Ford Sterling, and Mr. Marvin's "Idle Moments" are the most impressive. The latter is a very fine figure-study and should blaze a new pictorial trail for its author.

Fred Archer, E. C. Kenton and W. A. Hudson, of the Camera Pictorialists, are now in the "Service," but have nevertheless managed to enter some fine prints.

When prints from Japan are mentioned, one automatically looks up C. P. Crowther in the catalog. It has remained for an Englishman to put Nippon on the pictorial map. He has sent a series of prints which pulse with the mystery of the Orient—portrayals of famous Japanese actors in classic roles. His "Matsumoto Koshiro," as the Robin Hood of Japan,



THE SLACKER

HOLMES I. METTEE

LOS ANGELES SALON

is one of the most striking prints in the show, technically a fine piece of work and delicately subtle in treatment. His prints are larger than any of his that I have previously seen and the increased size has added greatly to their pictorial strength.

Kanesi Kawakami and Hideo Yoshida have each sent gum-prints from the land of the Rising Sun, and they are fine bits of technical work. The latter's "Portrait" just misses being a little gem. Its author seems to have been a bit too conscious of an occidental audience in his treatment of a charming oriental subject.

Of the Canadian prints, "Unrepentant," by W. R. Allen of Montreal, is easily the most striking. It is a delightful child-study. In delicious contrast to the sullen little features is the streaming sunlight which bids fair to clear away the clouds of childish tragedy.

Among the prints from Great Britain, "The Liner's Escort," by Engr. Comdr. E. J. Mowlam, has a dramatic appeal which would make for its popularity the world over, Germany excepted. It is the happy combination of suggestion and grim reality. The angry seas in the foreground and the flying spray streaming from the decks of the destroyer which is conveying the giant liner in the background, portray most graphically and thrillingly Britain's mastery of the seas.

This Salon is unusually rich in carbons, a process virtually unknown to western workers, yet one of the most subtle and delicate mediums within reach of the pictorialist.

The members of the Buffalo Camera Club, the Chicago Camera Club and the Photo-Fellows of Chicago have contributed carbon-prints which have done much to raise the Salon above the level of the ordinary. These prints, together with several very fine bromoils by other Eastern workers, are even as an oasis in an otherwise desert of bromide and chloride.

W. H. Porterfield is probably the strongest individual exhibitor of carbons; but he is hard put to maintain his claim to first honors. His prints have a bigness of conception and a breadth of treatment that raise them to a pictorial plane of their own. His "Storm-Wind" has all the qualities of a painting without sacrificing any of its dignity as a photograph, and is one of the finest things in the show.

Edward McPhail has sent his "Power of Niagara" which is too well known among picture-lovers to need further comment. But one may pause to say that its presence adds strength and a sense of bigness to that portion of the wall on which it is hung.

David Bomar, Claude L. Moore and Chas. L. Peck have collectively shown us the romance and



THROUGH THE GATES OF ST. PAUL
LOS ANGELES SALON
WILLIAM H. ZERBE



mystery of Buffalo Harbor. Their three prints, "A Glimpse in Buffalo River," "The Harbor Below" and "Buffalo Harbor—Evening," are colossal. They have pictured the spirit of America—the vital force of the nation.

C. W. Christiansen's "Study in Pond-Lilies" is a master-bit of massed pattern. A less competent draughtsman could so easily have destroyed the delicate balance which governs the various masses in the composition.

Among the exhibitors of bromoils, two names stand pre-eminent—Dr. A. D. Chaffee and George Alexander.

Dr. Chaffee's "St. Michel" could easily be a page from Maxfield Parrish's sketch-book, and his "Douarnenez-Finisterre" is a wonderful study in comparative values. These and four other excellent bromoils are at once the wonder and despair of all adventurous spirits who have wrestled with this elusive process.

George Alexander also presents two bromoils whose presence is apt to be most stimulating to the sale of stag's-foot brushes and lithographic ink. His "Bird-Study" is beautifully composed and his "Lotus" has all the quality and texture of a fine crayon. Both show a masterly handling of subdued values.

From Baltimore have come several prints in a little-used medium—Gum Bromide. They are the work of Mr. Frederiek Frittita, and one especially, "Un Poème," is quite remarkable for its richness in the halftones and lower tones. These prints are quite small, almost miniatures, but have a remarkable carrying-power.

Among the gum-prints, the work of Dr. Rupert Lovejoy, Francis O. Libby, Wm. Gordon Shields and W. A. Hudson is easily supreme. As a medium of suggestion, Dr. Lovejoy's "Long Trail" is, perhaps, the most consistent; but Mr. Shields' "Hour of Twilight" is one of the finest bits of technical gum-work in the show and has a strong pictorial appeal, as has also Mr. Libby's "Wardens of the Sky."

Leonard Westphalen has contributed the best nude in the Salon, which is singularly free of subjects of this character. It is a miniature "Henner" in feeling and treatment, and this impression is still further enhanced by its tone.

Holmes I. Mettee has produced in "The Slacker" a picture which dominates many surrounding prints several times its size. Its force is compelling. Here we have a proper connection between title and subject, but it is a subtle and not too obvious one. It is a fine print, well titled, and excellent in its placement and rendering of masses. A larger print would add to its weight, but it is unquestionably fine as it is.

It has remained for John Stocksedale to pro-

duce one of the most charming and unconventional portraits in the Salon. He has a refreshing viewpoint and the simplicity of pose and severity of line have made it conspicuous.

Forman Hanna lives in a country which is barren of pictorial subjects as measured by the usual routine. His earlier subjects were notably cloud and desert landscapes; but his later work opens up an inexhaustible field which he may claim as his own. The life of the Arizona Indians, the dwellers on the mesa, offers unlimited possibilities, and Mr. Hanna's "Hopi Woman" would indicate that he is thoroughly alive to this fact.

Albert F. Snyder's "Approaching Storm" will withstand the most searching analysis. Its composition alone is noteworthy. His placement of small and scattered masses is faultless, each in its place and each carrying its proper weight. Pictorially, it is a fine thing and presents a strong bid for recognition on that score.

Wm. H. Zerbe is always attracted by big things, and in his "Through the Gate of St. Paul's" he has caught the heart-throb of a great city. It is admirably balanced, and the hurrying throng and the vista beyond, seen through the low-toned foreground, lift it from an architectural study into a glimpse of life itself.

The most delightful child-study shown is by G. Buell and Hebe Hollister, and is called the "Venetian Water-Jar." It is a subject for Maxfield Parrish or Jessie Wilcox Smith. What a wealth of romance and adventure might be hidden in that jar, and what a sweet bit of drawing in the quaint little figure!

During the past few years, an enterprising and original group of pictorialists has developed in and about Portland, Oregon, and some very good prints have come from the northwest. Henry Berger, Jr.'s "The City" is a very pleasing carbon and has an etchinglike quality which helps to break up and subdue the heavy masses of its composition.

The Camera Club of Salt Lake City is also developing some keen workers. I understand that Thos. O. Sheckell has been making exhibition prints for only a few months and, if so, he is to be congratulated on his "Frosty Morn" which has all the force and strength of a man who knows whither he is bound. It is a happy union of strength and delicacy. Mr. Sheckell, however, should cultivate the art of properly displaying his wares, for the excellent judgment displayed in making the print was sadly lacking when it came to the mounting.

L. A. Olsen shows one of the best winter-scenes in the exhibition in his "Weeds and Fence." It is a clever bit of composition and

could so easily have been reduced to the level of the commonplace by a change of viewpoint or by different trimming.

The review of the show, as a whole, leaves a decidedly pleasing impression. To be sure, there are prints which are lacking in interest, but which deserved consideration on points alone. An exhibition that was one-hundred per cent super-pictorial would be titanic, if not cataclysmic. But one may safely say that here is concrete evidence that pictorial photography is steadily and surely strengthening its claim to classification as one of the fine arts.

California has developed independently a group

of pictorialists whose work has won recognition at all of the important Salons, in this country and abroad, and their growth has been remarkable when one considers their isolation. Exhibitions of this kind, which enable one small corner to see and study what the rest of the world is doing, will surely put Pictorial Photography in the west on a saner and sounder basis, and it is to be hoped that this salon of the Camera Pictorialists of Los Angeles will become a yearly event and will receive as strong support in the future as has been accorded it this year.

NOTE: Forman Hanna's "Hopi Woman" will appear in March PHOTO-ERA.—[EDITOR.]

The Quest for Color

Fifth of the "Professor Pyro" Talks

MICHAEL GROSS

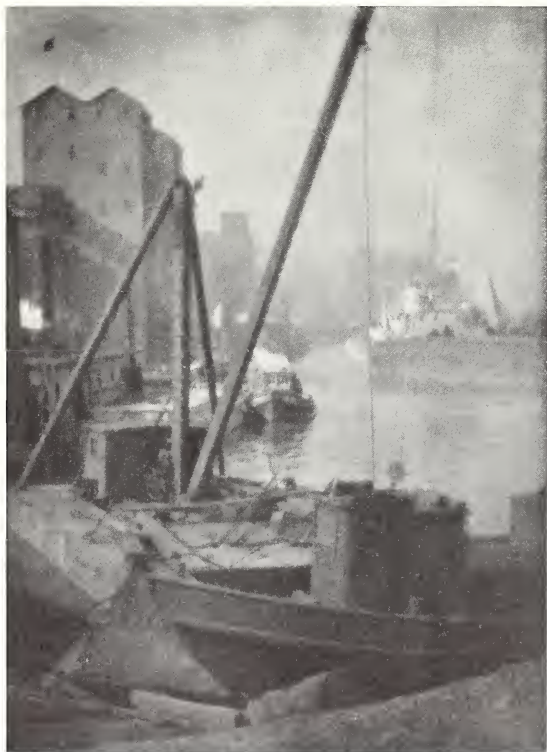
BEFORE we proceed with the history of the further evolution of photography," said Professor Pyro, "let me summarize briefly the ground that has already been covered. Primitive man, we have found to be ever curious and always eager to obtain from old Mother Nature some of her treasured secrets. By noting the shadows and images cast by the sun's rays, he endeavored immediately to find some way to produce these images at will. From this quest, by various stages and through many evolutions and improvements, sprang the Camera Obscura, in which exterior scenes were produced in a darkened chamber by means of a lens-covered hole pierced through one of the walls. This innovation was followed by the discovery of the properties of nitrate of silver; then came the making of photographic impressions on paper coated with this substance, and, in due time, a method was found to make these images permanent. Soon, the camera itself arrived and, in quick succession when the story is thus recounted, followed the daguerreotype, the collodion-plate, the gelatine dry-plate, and, finally, the daylight-loading film-cartridge of to-day.

"But modern man, in common with his primitive brother, still retains his ancient heritage—an insatiable curiosity, a sub-conscious craving to see 'what's around the corner,' and a deeply rooted habit of asking 'why' instead of taking a fact for granted. This instinct, if I may so call it, may serve as an explanation for the

motive which prompted man—after monochrome photography had been brought to a stage where a picture could be made in a four-thousandth part of one second, and the photography of traveling-bullets and other projectiles was a matter of everyday occurrence—to 'look on all the works that his hands had wrought, and on the labor that he had labored to do, and to find all was vanity and a striving after wind and there was no profit under the sun'—unless, forsooth, he could discover some way to reproduce Nature in all of her wondrous beauty and range of color.

"The first step in this direction came when Professor Clark-Maxwell—head of the first class in experimental physics at Cambridge—found that it was possible to imitate any color perceived by the eye by mixing three primary colors—orange-red, green, and blue-violet. Before showing why this was so, let me take a moment to give you a brief idea of what color is and how color is seen by the human eye.

"Color is due to the suppression or absorption of some of the constituent rays of white light. That sounds a little pedantic, I'll admit, so I will try to simplify the explanation. A piece of red ribbon, for instance, appears red only because it has suppressed or absorbed those colors to which red is complementary and the remaining color gives you the impression of red. Even that isn't very simple; but you'll see my meaning clearer as we proceed. White and black, as you no doubt know, are not properly colors. White is the sum of all-light-rays, and, like a beam of



A GLIMPSE IN BUFFALO RIVER
LOS ANGELES SALON
DAVID W. BONNAR



THE WINDING STAIR

FREDERICK F. FRITTITA

LOS ANGELES SALON

sunlight, is seen as white. Black, on the other hand, is the suppression of all light and therefore of all color—for without light there can be no color.

"When Clark-Maxwell found that, by combining and superposing the orange-red, green and blue-violet colors of a scene he could obtain the compound colors of nature, he did merely what the human eye does in taking in the color of an object. The tints and shadings you see when gazing at a beautiful landscape, are formed for you because your eyes single out the red, green, and blue rays in the scene and then reconstruct these rays into the various intermediate colors. Nature, the greatest photographer in the world, has given your eyes a special mechanism with which to do this compounding. However, in photography, the same process requires three plates—one to record the 'greenness' of a scene,

a second, the 'redness,' and a third, the 'blue-violetness.' These plates are obtained by making three exposures through three separate light-filters. The first filter lets pass only the red rays in a scene; the second produces a negative showing only the green rays; and the third yields a negative showing only the blue-violet rays in the object photographed. In making positives from these plates, the one made from the red negative shows density according to the amount of red in the original scene; the green and the blue-violet positives show density according to the amount of these colors in the object photographed. When the red positive is placed in a lantern and projected through a lens—the same color as the filter through which it was made—it shows all the red there was in the original subject. The same thing happens when you show the green positive through a



THE VENETIAN WATER-JAR G. EUELL AND HEBE HOLLISTER
LOS ANGELES SALON

green lens, and the blue-violet positive through a blue-violet lens.

"Now, if the findings of Clark-Maxwell were accurate, and the true colors of Nature may be produced by superposing red, green and blue, it naturally follows that if the three positives I have just mentioned were projected through their respective color-lenses, and the three images thus formed were made to register on a screen, the resultant composite image would be in the natural colors of the scene photographed. A simple method to form this composite 'full-color' image was invented in 1888 by F. E. Ives. It consists of a box so constructed that it holds the three positives and an arrangement of transparent glass-mirrors which show the plates superposed, thus giving the colors of the original. Many variations of this process were soon placed upon the market—however, all having

the same basic idea—three negatives made through ray-filters, the positives of which were afterwards projected through colored lenses and superposed.

"There was no radical change in the method used to obtain pictures in actual colors, until Messrs. Lumière, of Lyons, brought out their now famous Autochrome plates, in 1907. With these plates, objects could be photographed in the actual colors of nature by one exposure and through but one ray-filter. In addition to these advantages, the negative itself was turned into a positive during the course of development, and this positive, when viewed by transmitted light, showed all the colors of the original scene. Autochrome plates eliminated, at one stroke, the triple exposure necessary under the old method of making the picture; the making of positives from the negatives thus obtained, and the pro-

jecting and superposing of these positives in a specially constructed lantern or viewing-box.

"Briefly, Autochrome-plates differ from ordinary black-and-white plates in that, between the regular photographic emulsion and the glass, there is placed a thin layer of starch-grains, each grain being approximately one seventeenth-hundredth part of an inch in diameter. These starch-grains are dyed orange-red, green and violet, and are dusted on the plate after it has been coated with a sticky substance. The spaces that the starch-grains do not fill are covered by dusting the plate with fine lampblack, which adheres to the uncovered or still sticky parts. These vari-colored starch-grains are mixed in such proportion that the layer appears colorless when examined by transmitted light. The regular sensitized coating of the plate is extremely thin and is made of a special, fine-grained panchromatic emulsion. The plate is placed into the camera with the glass-side toward the lens. When the exposure is made, the light must pass through the colored starch-grains before reaching the sensitive coating. Each of these grains acts individually as a minute color-screen and absorbs every color in the scene but its own. When the plate is developed, a black spot is found under each grain. This spot is reduced silver of a density proportionate to the amount of color received and transmitted by the particular starch-grain under which it lies. If the plate were now fixed, the picture, when examined by transmitted light, would show only those colors complementary to those in the original, because the true colors would be hidden by the black spots beneath each grain. However, instead of fixing the plate, the image is reversed. The opaque spots under each starch-grain now become translucent and transmit colored light identical in hue to the light transmitted by the grain when the plate was first exposed in the camera.

"I would like to mention, before I conclude this talk, that although the first photographic process which gave pictures in the full colors of nature was perfected in 1888, this was by no means the initial attempt that had been made in America toward reaching this goal. In 1851, a clergyman named Hill, who lived in New York, startled the world by announcing that he had discovered a method of photographing in natural colors. Almost every newspaper and magazine in the country gave Hill column after column of free publicity because of his statement that, despite his being a poor man with a large family, he had refused offers of all kinds for his invention because he was determined that it should not be used as a monopoly by any one. A clipping I have here, taken from a paper published late in 1851, says: 'Mr. Hill is pursuing a course which must sooner or later gain him the confidence of his fellow-artists. It is Mr. Hill's intention to take out a patent covering his invention, yet he will act liberally toward his fellow-artists.'

"Hill finally announced that, after much persuasion, he had been fully convinced that his duty to humanity demanded his publishing a book in which would be described his process. In accordance with this resolve, Hill printed a small leaflet in which was given the contents of the forthcoming volume. The price of the book was to be five dollars—first come, first served—with no favor shown to those of low or high degree. After collecting \$15,000 in cold cash, Hill finally issued a cheaply printed book on the daguerreotype-process. Thus he proved that, although he might have been a poor man, he was by no means a stupid one; and that, although he might not have discovered a way to make photographs in color, no one could deny that he had found an effective method to make fifteen thousand dollars."



RIVERVIEW

KATHERINE BINGHAM

A Home-Made Flashbag

C. A. PIERCE

IT should be stated, in the first place, that this article is not written to advise making a flashbag if one can afford to buy one, except in the circumstance that the pleasure of doing the work will pay for the time used; and, in the second place, a photographer who makes pictures for money, cannot afford to take the time to make a flashbag—not if he has enough

put so much money into an article that would be used but little, and then only for pleasure. So the decision to make a flashbag; and after considerable time expended in unsuccessful attempts, a satisfactory one was made without spending much money. It did take some time to obtain a flashbag that was dependable, however, and a description of the final design is given to enable some other amateur photogra-



FIGURE 1



FIGURE 2

work to justify calling photography his business. But it is often the case that one makes pictures for pleasure alone and cannot afford the money to obtain all the photographic apparatus desired; then one's recourse is home-made apparatus. My original intention was to buy a flashbag, and there was no trouble to find a number of good ones on the market; but when it came to the price, I found that I could not afford one. Not that the flashbags were not worth the prices asked; it was merely that it was not expedient to

put so much money into an article that would be used but little, and then only for pleasure.

The flashbag in its final form is built up with an Imp Flashlite and a muslin bag. The Imp Flashlite consists of a powder-pan and a mechanism which operates the shutter of the lens and fires a cap to ignite the flashpowder. The bag is fire-proofed in a solution, the formula for which is given in Number 134, *Photo-Miniature*, p. 91. The text reads as follows: "Water, 1 gallon; ammonium phosphate, 16 ounces; borax, 2

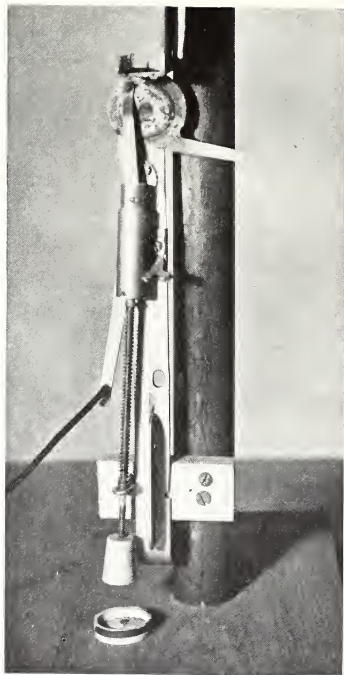


FIGURE 3

ounces. The bags should be soaked in this for half an hour, then wrung out and hung up to dry. Repeat the soaking every month or two." The only reason that this article does not end right here is the same reason that flour, sugar, eggs, etc., do not make a cake.

Fig. 1 shows the flashbag in its final form, the bag being removed to show how the parts are assembled. Fig. 2 shows the apparatus with the bag in position for firing a charge. Fig. 3 shows the reconstructed mechanism for operating the shutter. The base in Fig. 1 is a small board with four rubber feet. The vertical rod is a piece of curtain-pole $3\frac{1}{2}$ feet long; it is fastened with a screw to the base. The Imp Flashlite is fastened to the rod with a screw through the pan, and the lower end is clamped to a short

stick, which is fastened to the rod with two screws. Extending up from back of the pan of the Flashlite is a piece of bright tin, about 9×5 inches in size, which acts as a reflector and protects the larger paper reflector, which extends upward from back of the tin reflector—the tin reflector was left covered with smoke from a preceding flash to avoid reflections, when photographed. At the top of the vertical rod are two sticks, each two feet long, which are fastened in position with a screw. These sticks can be set at right angles to support the bag, or can be pushed together when the flashbag is to be stored. The muslin bag is 36 inches long and 18 inches square. Several small rings are sewed to the bag near the open end to hold a string with which the mouth of the bag can be partly closed when the powder is ready to be fired, or completely closed directly after the powder has been fired. The Flashlite is operated by pulling a string attached to the trigger on it.

While many pictures can be taken by operating the shutter of the camera with one hand and operating the flashbag with the other, it is sometimes necessary and always desirable, to have the shutter operated by the flashbag. Provision is made on the Flashlite for operating shutters which have either wire-releases or bulb-releases; but unfortunately, long wire-releases cost considerable, and the small air-pump will not operate a Regno shutter for a 5×7 rapid rectilinear lens if there are several feet of rubber tubing between the pump and the shutter. Since it is seldom desirable to place the camera close to the flashbag, it is necessary to devise some other mechanism to release the shutter automatically by means of the Flashlite, whenever any but the smaller shutters are to be used.

The small air-pump was changed, in such manner as will be described, so that Regno shutters for 5×7 and 8×10 rapid rectilinear lenses can be operated by means of a bulb when there are 20 feet of rubber tubing between the flashbag and the shutter. In fact, the device will probably operate these shutters with more than 20 feet of tubing; but 10 and 20 feet are the lengths that have been used regularly. It is desirable to keep a constant amount of tubing between the flashbag and the shutter in order to be certain that, after once adjusted, the shutter will always open immediately before, and close immediately after, the flash.

To change the Flashlite so that it will operate a bulb-shutter at any reasonable distance, the air-hole in the small air-pump was drilled out to admit a rod $\frac{1}{8}$ inch in diameter. Then a hole was drilled in the bottom of the plunger of the air-pump, and a brass rod 7 inches long and

$\frac{1}{8}$ inch in diameter soldered therein—compare Fig. 3. A screw-eye was placed in the stick which holds the lower end of the Flashlite, to act as a guide for the lower end of the brass rod. On the bottom of this rod was placed a half-inch rubber cork. On the wooden base underneath the cork was placed the lid of a small round wooden box, to hold the rubber bulb of the shutter. After the Flashlite is set for a flash, as shown in Fig. 2, the distance between the cork and the lid is just a little less than the diameter of the bulb, so that the bulb is held in place in the box-lid by the rubber cork. The distance between the cork and the lid, before the Flashlite is set, as shown in Fig. 1, is just about equal to the thickness of the bulb when it is squeezed so that its sides touch. To make ready for a flash, the Flashlite is set, thus lifting the plunger, the rubber bulb is placed in the lid under the plunger, a cap is placed in the pan of the Flashlite and powder is spread over the cap. Then the shutter is set. When the flash is fired, the plunger compresses the bulb and operates the shutter. It was found by trial that a small rubber bulb, more or less completely compressed by the plunger, was more satisfactory than a larger bulb which interfered with the satisfactory firing of the flash.

The spring of the Flashlite was found to be too weak for satisfactorily operating the firing-mechanism and compressing the bulb at the same time. The action was such that once in a while the cap was not exploded, or the bulb was not compressed sufficiently to operate the shutter. To make both actions certain, a supplementary spring was made of spring-wire, winding it around the brass rod. This spring is compressed when the Flashlite is set, acting between the bottom of the air-pump and a stop, soldered to the brass rod, just above the rubber cork—compare Fig. 3. This spring assists the action of the normal spring in the Flashlite and makes the action of the firing-mechanism and the action of the shutter certain. Any size of bulb with any reasonable length of rubber tubing can probably be used, if a suitable auxiliary spring is chosen. The auxiliary spring now in use on the Flashlite is made of spring-brass wire, which is a little more than 0.02 inch in diameter. The wire can be wound up tight on a rod $\frac{1}{8}$ inch in diameter and then pulled out to the length desired. The bulb now used is oval in shape, and approximately $1\frac{1}{4}$ inches in diameter and is made of red rubber which has proved satisfactory.



With the longer length of tubing—20 feet—some difficulty was experienced at first to get either shutter to open before the flash was fired. The rubber-tubing expanded and absorbed, for the instant, the impulse of air from the bulb, so that the flash was fired before the shutter opened. This difficulty was easily overcome by slipping a rubber band over the finger-release on the shutter, and stretching it over the nipple for the rubber-release—compare Fig. 4. A rubber band must be chosen of such strength that it will almost cause the finger-release to operate the shutter. The air-plunger in the shutter will operate the shutter much more easily and quickly when assisted by the rubber band, than otherwise—the action is not unlike that of a set trigger on a rifle, except that I have had no trouble with premature operation in the case of the shutter. To use the shutter with the rubber band, merely place the selected rubber band in position and then operate the shutter just as if the band did not exist. It is easy to select a rubber band of such strength that, while the speed of action and ease of operation of the shutter is considerably increased, there is no danger from premature operation, even when the shutter is jarred roughly. Both shutters operate satisfactorily with 20 feet of rubber tubing when set for an exposure of 1/5 second if the rubber band is in place.

It will save some exasperation and some expense for powder, if the firing-mechanism and the shutter are tested out together before trying to take pictures. Caps cost 5 cents per box of thirty, and the Flashlite and shutter can be operated many times at little cost, using just a bit of powder only when one wants to find whether the shutter opens at the correct moment. In fact, if one's eyes and ears synchronize satisfactorily, it is perfectly easy to test the synchronism of flash and shutter by placing a cap in the firing-mechanism, and noting whether the shutter opens just as the snap of the cap is heard.

The pecuniary cost of this flashbag is not great. It is impossible to give an exact statement of its cost because a number of parts were picked up around the house; but the following itemized account gives the approximate cost.

Imp Flashlite.....	\$1.75
1-foot brass rod.....	.05
Rubber cork and feet.....	.05
Bulb.....	.25
10 ft. rubber tubing.....	.50
Tin (use a tin can).....	.00
Paper reflector.....	.00
3½ ft. curtain pole.....	.00
1 lb. ammonium phosphate.....	.35
Borax.....	.00
3 yds. muslin.....	.75
	\$3.70

Hence the cost is seen to be less than \$5.00. There is no need to make up at one time more than a quart of the fire-proofing solution, and a pint can be made to fire-proof the bag once. I made a bag with material taken from an old sheet and had the tubing on hand, thus reducing my cost to about \$2.50. This bag will not hold smoke indefinitely, but it does well enough so that all but a little smoke can be carried out of the room if the end of the bag is closed immediately after the powder has been fired and the flashbag removed in a minute or two. I expected to experiment a little with material for the bag, but being impatient, one evening, to see how the "thing" was going to work, asked my wife for an old sheet, found that this material worked well enough for my purposes, and have let well enough alone ever since. A new piece of closely-woven muslin would probably full-up enough when washed to hold smoke some time.

As to how often the bag should be fire-proofed—mine has been fire-proofed once. It has been in use several months, and a good many charges have been fired in it. With the parts arranged as described, and with small charges of powder, the fire-proofing is a precaution, rather than a necessity, because fire never reaches the bag. However, remember that trouble usually comes when it is not expected, so don't delay re-fire-proofing too long. There is a chance that once in a while some of the exploding-powder will be blown from the pan and burn as it is thrown about. This is the time that the fire-proofing must be in good condition. The bag will become smudged with continued use and cut down the light transmitted; but it is the front of the bag that suffers most, and the bag has four sides, each of which may be used as the front. When all the sides are black, the bag may be washed and re-fire-proofed.

The fire-proofing solution suggested—there are several good ones—is very satisfactory. A small piece of muslin was placed in the solution and then dried, when it was found to be in such condition that when held in the flame of a match, it would curl up, get red and disappear in the flame; but there was no tendency for the cloth to change at the edge of the flame. In other words, the material would not support combustion at all, and would not burn readily when held in a flame. It is usually desirable to have the flashbag nearer the object than the camera. When such is the case, a focusing-cloth can be spread over the side of the bag which is in position to transmit light directly to the lens. Especially when photographing a person, the bag should not be very far from the object, else large charges of powder will be necessary to obtain fully-exposed

plates. With the bag 6 feet from the object, a fully-exposed head-and-shoulders photograph can be obtained with a rounded salt-spoonful—20 grains—of Victor normal grade powder, a plate whose speed is Watkins 180 and a lens at F/8. A heaped salt-spoonful of powder will give a satisfactory exposure of two people 8 feet from the flashbag with lens at F/16. The bag acts as a diffusing-screen and no other diffusing-screen is needed for ordinary work; but a reflector is usually desirable for lighting shadows.

No attempt has been made to find how large a charge of flashpowder can be fired in this bag. Thirty grains is about the largest charge that has been used, and it took care of this handily. If too large a charge for the bag was fired in it, one of two things might happen; the bag might become scorched, or it might not be large enough to hold the volume of smoke. Provided the fire-proofing is in good condition, nothing serious should happen in either case, unless the charge is so large as to blow the bag to pieces. I would not hesitate to try forty or fifty grains in it if the need should arise, but would certainly advise trying it the first time in some place where there could be no possible danger of fire or injury to any person, just to be on the safe side.

While the data for the illustrations have nothing to do with the making, or the using, of the

flashbag, they are appended for those who may be interested. All the plates were exposed by artificial light—a 60-watt tungsten incandescent lamp in an ordinary brass reading-lamp with parabolic reflector which was finished on the inside with aluminum paint. For Fig. 1 the lamp was 8–10 feet from the object. The exposure was 10 minutes at F/16 on a Standard Polychrome plate, which was developed for 6 minutes at 68° F. in pyro-soda, Eastman formula, diluted to half normal strength. The print was made on Azo F Hard or Hard X developed in M-Q. The data for Fig. 2 are the same as for Fig. 1. In both cases an auxiliary light was projected onto the background to lighten its tone. For Fig. 3 the lamp was 4–5 feet from the object, the remainder of the data being the same as for Figs. 1 and 2. For Fig. 4 the lamp was 2–3 feet back of the object, and the exposure was 5 minutes at F/16 on a Wellington Anti-screen plate developed for 10 minutes at 67° F. in Ingento M-Q tablets diluted to one-quarter normal strength. The print was made on Azo F Hard or Hard X. A somewhat elaborate system of white-paper reflectors was necessary for illuminating the object, as no direct light from the lamp fell on it. This system of indirect illumination was employed to avoid troublesome reflections and highlights.



PROVINCETOWN HARBOR IN WINTER

JOHN R. SMITH

Practical and Humorous Experiences in Photography

Part I. Lenses, Shutters and Cameras (continued)

A. H. BEARDSLEY



EXT in importance and perplexity is the subject of shutters. To-day there are rotary, automatic, set and focal-plane shutters. The rotary type is familiar to users of all box-form cameras. It "flip, flops" to right, then to left, making an exposure at each "flip." My first experience with one was on my Brownie camera. Somehow I had gotten into my head that it was necessary to move the lever to right, then to left, to make an exposure. The happy result was that every negative contained two pictures of the same subject superimposed; and, of course, the two images were out of register with one another so that each picture caused a dizzy feeling to come over the beholder. Also each picture—due to two snaps—was much over-exposed and sometimes almost black. After I had made some three or four dozen pictures, as described, I discovered my mistake—all by myself, too.

The next type of shutter is known as the automatic, because it does not have to be set for each picture. A depression of the lever or a push of the wire-release is sufficient to make it "snap." With this type there is little danger of making two exposures on the same plate or film—at least, as far as the shutter is concerned. The best known of this type is the so-called T B I which gives Time, Bulb and Instantaneous exposures by moving the indicator to the different letters marked on the shutter. The Time exposure requires one depression of the lever to open the shutter and another one to close it. The Bulb exposure requires one depression of the lever to open the shutter, but the lever must be kept depressed, otherwise by releasing it the shutter closes itself automatically. On some cameras, these exposures are controlled by a rubber bulb and tube or by a wire-release. However, the method of manipulation is virtually the same. The Instantaneous speed is usually from 1/25 to 1/50 of a second—according to make and to how the shutter may be feeling at the moment. It is a good all-around no-brain-work-required sort of shutter. Under the same general classification we have shutters that give speeds of 1/25, 1/50, 1/100 of a second and Time and Bulb; also others that give one second, 1/5, 1/10, 1/25, 1/50, 1/100 of a second and T and B. The two just mentioned are widely used

with rapid rectilinear lenses and are, perhaps, the most efficient of their type. Needless to say, brain-work *is* required to manipulate these shutters to advantage.

The set-type of shutter gives speeds usually of one second, 1/5, 1/10, 1/25, 1/50, 1/100, 1/250 or 1/300 of a second and T and B. Every one of these must be set—like cocking a revolver—before they will "snap." These shutters are expensive, but more accurate and dependable than the automatic type.

My first experience with one was humiliating but quite salutary. A group of friends wished to have a picture made at an informal outing. They flattered me by asking me to make the picture. After some four years' experience *trying* to make pictures, I felt capable to snap the group out-of-doors and in bright sunlight. In addition to my photographic experience, I offered the services of my new F/4.5 anastigmat lens mounted in one of the best types of high-speed set-shutters. My friends gathered about to inspect my new camera and expressed themselves as delighted that their pictures were to be made by an expert so well equipped.

To appreciate my position, it should be noted that my new equipment was not a week old in my hands and that all my best pictures had been made with a rapid-rectilinear lens mounted in an automatic shutter which needed no setting. At length, the fateful moment arrived. There were ten persons in the group and I attempted to arrange them in a truly professional manner. Evidently, my preparations made a favorable impression, for they nodded to each other as much as to say, "He knows his business." To meet the wishes of various members of the group, I made six exposures. The lighting was excellent, everyone in the group kept still and the background of trees made a delightful setting. In fact, the veriest novice could have obtained an excellent picture. I packed up my outfit hastily, excused myself on the plea that I wished to develop the exposures at once and hurried home. The result was six beautifully developed plates without the semblance of an image on any one of them!

With four years of photographic experience, a new F/4.5 anastigmat lens mounted in a new high-speed set-shutter and an excellent camera I had failed miserably because I had *not* set my



A WAR-WIDOW
LONDON SALON 1918
LOUIS FLECKENSTEIN

shutter for each exposure. I used a wire-release which made a clicking sound when pushed; but, obviously, it could not trip a shutter that was not set. I had mistaken each click for a snap of the shutter. It took me nearly ten days to muster sufficient courage to tell my friends the truth, and it will take many years for me to hear the last of it as far as they are concerned.

The focal-plane type is used almost exclusively on all high-speed reflecting cameras and on many so-called press-cameras that do not employ the reflecting feature. It is made on the principle of a roller window-shade which, when released, snaps to the top of the window with a startling bang. However, in the case of the focal-plane shutter, this tendency to snap is controlled in such a manner as to give a variety of speeds ranging from slow exposures to as high as 1/1500 of a second and, in addition, provision is made for time-exposures. Briefly, the focal-plane shutter resembles a roller window-shade with slits of different widths cut across it and a mechanism which allows each slit to pass across the window at variable speeds controlled by a variable tension-spring. There are other forms of focal-plane shutters; but the principle roughly described applies to all.

Needless to say, I also had a first experience with a focal-plane shutter. A friend of mine was very eager to obtain a good picture of a certain well-known college track-man. My friend assumed that with my photographic experience I ought to be able to get a good picture of this runner at high-speed. The idea did not appeal to me for various reasons which I dare not make public. Suddenly, a way of escape dazzled me by its very simplicity.

"Look here, old man," I said warmly, "you know I'd be glad to make the picture for you; but as a matter of fact my camera hasn't got a shutter fast enough to catch a snail. Try to get somebody who has a reflecting or other focal-plane camera." My friend looked disappointed; then his face brightened.

"Of course, you know how to run one of these reflecting-cameras, don't you?"

"Certainly," I hastened to reply, knowing full well that there was positively *no certainty* about it, "but—"

"Look here," he broke in, completely ignoring my attempted objection, "I know where I can get a fine new 5 x 7 reflecting-camera. You stay here. I'll get it and we'll go out to the track this afternoon."

"But—wait a moment—I—"

"Shut up! I'll be right back," and my friend disappeared.

Did you ever fondle a 5 x 7 reflecting-camera

fitted with a 1C Tessar lens? Well, it is about as handy as a hardware salesman's trunk of samples. Mind you, this is no reflection on its sterling efficiency as a camera; but a man strong of limb and wind should choose it as his *rade mecum*—not I, who barely casts a shadow on the brightest day.

As a matter of fact, I had seen a reflecting-camera before; but I had never used one. I knew theoretically something about its manipulation; but theory and practical experience in the circumstances under consideration were not keeping company. There had been a quarrel—they were not on speaking terms.

When my friend and I arrived at the track, I was so exhausted from carrying that 5 x 7 reflecting-camera, with film-pack adapter, magazine and six double-plate holders, that I did not care who ran or what ran that afternoon. While my friend was away trying to find out when the runner in question was to run, I endeavored to get acquainted with the interior and exterior mechanism of the reflecting-camera. The first thing was to consult a speed-table that in size and comprehensiveness resembled a mortality-table issued by life-insurance companies. From this I set the tension and regulated the size of slit in the curtain. I pressed the lever. Nothing happened. I pressed again; still nothing happened. Finally, I discovered that the mirror was up. By lowering it so that it protected the plate-area from light, the shutter released nicely. This mechanical precaution taken by the manufacturers of the Graflex has saved thousands of plates and films from being light-struck. After several trials, I had the tension, slit-opening and mirror working together very sociably. Next I gazed into the hood. All was dark. I racked the front out as far as it would go. Still, all was dark in the depths of the hood. Then I happened to glance at the front of the lens—it was capped with a neat lens-cap! No wonder there was no light on the ground-glass in the hood. After that, I saw everything bright and clear with the image right side up. This I enjoyed, particularly, as with my own camera everything was up side down on the ground-glass so that, to be sure of anything, I had to stand on my head.

Just then my friend returned and we hurried to the track. With the reflecting-camera all cocked and primed I awaited the psychological moment. The runner came in sight, going at top speed, straining his utmost to reach the tape. When he arrived nearly opposite, I pressed the lever. Thump! The mirror flew up and the curtain snapped down. Again and again I repeated the manoeuvre, until I began to feel and



RED CROSS PARADE

E. H. WASHBURN

act like a professional press-photographer. My friend complimented me on my evident ability to handle such complicated equipment and said that he knew how interested the runner would be in the pictures. With twelve plates and a film-pack exposed on this one subject I felt reasonably sure that at least one would be good. As a matter of painful fact, *not one* was good! Like many another novice with a focal-plane shutter, I had assumed that I must use the *highest* speed for fast-moving objects. I had set the shutter for $1/1000$ of a second—result, all the pictures were greatly underexposed. At the angle from which I made these pictures, a speed of from $1/300$ to $1/500$ would have been ample to stop motion and, likewise, it would have given a fully-timed negative. Between this particular friend and myself, the subject of photography is never mentioned.

With shutters, as with lenses, speed is a valuable asset; but it does not follow that this speed should be used at all times just because it's there. Exposures of $1/25$, $1/50$, $1/100$, $1/200$, and $1/300$ of a second will take care of 70% of the snapshot pictures you attempt, provided you combine these speeds with an intelligent

use of lens-apertures. The light-efficiency of the focal-plane shutter is greater than that of a between-the-lens type, and for this reason it is particularly valuable for high-speed photography. The study of the various types of shutters in their native haunts was of inestimable value to convince me that shutter-speeds and lens-speeds were not one and the same thing. If my shutter snaps $1/100$ of a second, it does not follow that my lens has a speed of $1/100$ of a second. However, if I can get a well-timed negative with my lens at a shutter-speed of $1/100$ of a second, it means that my lens has the ability to utilize to the best advantage all light admitted by my shutter at a maximum speed of $1/100$ of a second. Lens-speed is based on capacity. In other words, a lens one inch in diameter is slower than a lens of three inches diameter, because less light passes through it than is the case with the three-inch lens. A shutter-speed of $1/1000$ of a second might be used with the three-inch lens because it lets in enough light in $1/1000$ part of a second to produce a clear image on the plate. With regard to the one-inch lens, this high speed would not permit it time enough to produce an image.



THE BIRCHES
EDWARD MACDOWELL



Even though I have tried to explain the idea very roughly, remember that lens-speed and shutter-speed are two very distinct factors in photographic success.

My first camera was a Brownie—I do not care who knows it! We laugh at Ford jokes and we poke fun at owners of Brownie cameras; but the fact remains that Ford cars are largely responsible for the motor-trips of hundreds who never expected to drive a Packard, and, likewise, the Brownie camera has introduced photography to thousands who never hoped to manipulate a Graflex. In many cases, the ownership of a Ford or Brownie has been a thorough and practical preparation for greater mechanical or photographic progress; moreover, it has eliminated those who did not care to master more intricate equipment. Therefore, laugh not too boisterously at the next Ford joke, nor smile too disdainfully at the man with a Brownie. My ownership of this camera taught me more about photography, about my own characteristics and about my immediate relatives than I dared think possible.

All box-form cameras belong to the we-assume-all-responsibility-no-brain-work-required type. You do not have to focus and there is virtually nothing to adjust about the lens; the most fatiguing exertion connected with the box-form camera manipulation is the attempt to insert the film. Verily, a box-form Brownie is the most difficult and the most “cussed” camera there is to fill. Where can you find a two-dollar investment that can produce such a hundred-dollar flow of vituperative language! And yet—once you have the pesky thing filled—the Brownie makes excellent pictures. The box-type camera is the equipment *par excellence* for the person that wishes to reduce photographic difficulties to a minimum. Most of these cameras are fitted with meniscus-achromatic lenses and rotary shutters—truly, nothing photographic could be simpler to manipulate. With one of these cameras and a corner drug-store ready to develop-and-print-while-you-wait, the arm-chair camerist may be at peace.

The focusing-type cameras are equipped usually with rapid rectilinear lenses and one of the various automatic shutters. These cameras are easily filled; but the necessity to focus carefully throws a dark cloud over an otherwise happy combination. Focusing is a rock upon which many a promising photographic bark has been wrecked. Briefly, those who can tell at a glance that there is a difference between six and ten feet will focus with comparative ease; those who have no eye for distance will usually fail. The reflecting-camera has been

a boon to many “non-focusers”—but, all cannot afford such a camera. Hence, the popularity of the box-form type. Under the general classification of focusing-type cameras are the many foreign and domestic *de luxe* outfits that are fitted with anastigmat lenses and high-speed set-shutters. Correct focusing is no more difficult with these cameras than it is with those of moderate price. The more you pay for a camera, the more thinking you have to do to make good pictures. The greatest fallacy current in photographic merchandizing is that an expensive camera buys immunity from poor results. In all seriousness, I cannot repeat too often that it is the person behind the camera and not the equipment that is responsible for most photographic failures.

Reflecting-cameras have one pronounced asset that those of other types cannot offer; that is the great advantage the user has of being able to see the image right side up on the ground-glass up to the moment of exposure. Weight and bulk out of proportion to the size of picture that they make, are the drawbacks. It is a matter of individual preference. Some would prefer to put up with the weight in order to be able to make every picture sharply focused; others, who are good judges of distances, prefer to carry the lighter cameras. There are some folding reflecting-cameras of foreign manufacture that are remarkably compact; but no novice should attempt to manipulate them without careful preliminary instruction. Another advantage of the reflecting-type is that it uses the focal-plane shutter which appears to give greater light-efficiency and more reliable high-speed service than any other shutter now in use.

The pronounced improvement in the workmanship and technical construction of lenses, shutters and cameras within ten years has resulted in many imitations and duplications. This state of affairs has caused a variety of equipments that is positively amazing to the veteran camerist and completely demoralizing to the timid beginner. However, half the pleasure of buying a camera would be missing if there were five instead of fifty or more models from which to select. The general uniform excellence and efficiency of equipments now on the market make it virtually impossible for even a novice to purchase a camera that will not yield a good picture. To-day, we have the last word in photographic apparatus of every kind from which to select. Photography will and should become an ever-increasing source of pleasure, because it is one of the finest indoor and outdoor sports in the world.

(To be continued)

Personal Practice in Slide-Making



R. DUDLEY JOHNSTON is a lantern-slide worker of renown, and his exposition of his personal practice, given at the Royal Photographic Society, recently, and described in the *Amateur Photographer*, was, therefore, all the more interesting and valuable. He has gone in particularly for the process of producing blue-gray and blue-toned slides as set out in Wratten and Wainwright's handbook (first edition) on lantern slides. This was discarded in later editions on the ground of difficulty and uncertainty; but Mr. Johnston's experience was that it is a more certain and elastic process than the methods of physical development which they have substituted.

For lantern-slide work, the negative requires to be in sharp focus throughout. Development is carried through with due regard to the illuminant that is to be used to make the slides.

For making the slides, he employs a reducing-camera, mounted on a baseboard about five feet long, with a revolving negative-carrier at one end. The camera has rising and falling front and swing-back—very useful appliances for adjusting the image and correcting the perspective of vertical lines, if necessary. The lens is a six-inch anastigmat, working at F/6.5. He focuses usually at full aperture to get the maximum illumination of the image and then stops down to F/16 to ensure sharpness.

His plates are Paget slow, with rapid plates only occasionally for black tones, but the only "best plate" is the one the worker knows best. He never uses backed plates. His illuminant is a three-tube mercury-vapor lamp, the light being reflected from a white card placed behind the negative. With this light and average negatives, his exposures are

Black tones 7–10 secs. Blue-gray tones 1–2 mins.
Brown tones 30–100 secs. Violet tones 10–15 mins.

The developer must be adjusted to the exposure and not *vice versa*. If warmer tones are wanted, not only must the exposure be increased, but a corresponding alteration must be made in the constitution of the developer.

For warm tones he formerly used Adurol—an improved form of hydroquinone and free of some of the latter's drawbacks. But if Adurol was not obtainable, equally good results were obtained with a metol-hydroquinone developer with the formula given on every platenaker's instructions. The temperature he worked at as a rule was 70°—sometimes 75°—but then great care was required, as the gelatine became very

tender. His plan for keeping the developer at a constant temperature in cold weather is to have a large basin of warm water on the bench and maintain it at 75° or 80° by adding hot water as required, and in this he places all dishes and measures when not in actual use. His aim is so to adjust exposure, developer and temperature as to get the first faint but distinct image on the plate in about sixty seconds after pouring on the developer. In that case, development will be complete in about five minutes. Density is judged by looking through the slide against the lamp. The developer improves with use. He does not throw it away at the end of an evening's work, but leaves it in the measure, throwing half of it away when beginning again a day or two later and making up the bulk with fresh. This gives better colors.

So much for brown tones. As to blue-gray and blue tones, these he obtains by development pure and simple. The formula will be found in the first edition of the book already referred to, and, according to the exposure and the proportions of the developer, this will give colors ranging from black through blue to purple and red. Even for the black tones the exposure required is about four times that which is normal for an ordinary developer. In working this process, he aims again at an exposure which will ensure the first appearance of the image in sixty seconds, using the developer at 70°. Development should be complete in five minutes, and the only reliable method of judging density is to watch the slide by reflected light.

Fixing takes place in acid hypo; the slide is washed, hardened for two minutes in 5% formalin, washed again for five minutes, and dried on the rack. For reduction, he uses hypoferricyanide: One dram saturated solution of plain hypo, with two or three drops of 10% solution of potassium ferricyanide, poured in an egg-cup, and filled up with water. The fingertip is the best means to apply the reducer. For intensification, he finds the acid-silver intensifier valuable because it intensifies the slides without altering the color:

A.		B.	
Metol	88 gr.	Silver nitrate .	1 oz.
Citric acid,	176 gr.	Distilled water	10 oz.
Glacial acetic acid	1 oz.		
Water	20 oz.		

For use: 1 oz. A, 1 dram B.

It is necessary to apply the intensifier to the dry slide, and the action should not be continued for more than seventy or eighty seconds. Spotting and retouching complete the process.



MT. TACOMA IN WINTER

F. B. SCHENCK

The Fixing and Washing of Prints

GEORGE F. STINE

THE fixing and washing of prints is a subject of much importance. The fixing should receive just as much attention as the washing. Although it appears beyond a doubt that more prints are caused to discolor and fade by improper washing than by improper fixing, there are many that are discolored by improper fixing.

Many times the print shows both faults—that is, improper fixing and improper washing. Improper washing, in most cases, is due simply to carelessness on the part of the worker. However, improper fixing, although it may be caused by carelessness, sometimes occurs with the most careful worker. In the latter case it is due usually to the worker's not being thoroughly acquainted with the various chemicals used in the fixing-bath, to the lack of knowledge as to the life of the bath, or to the method of handling the

prints while in the bath. It ought to be remembered that prints should be immersed quickly and evenly in the fixing-solution whether or not the short-stop bath is used. The fixing-process is very important with regard to the permanency of the prints, therefore it is advisable, for the first few minutes, to keep the prints moving in the bath so as to ensure even fixation.

The prints should be separated occasionally during fixing and allowed to remain in the bath at least fifteen minutes. However, ten minutes in a freshly made bath will be sufficient, if one is attentive to this part of the work and separates the prints at intervals of one minute. It is possible to fix prints in a shorter time than that stated above, but one should not practice this rapid fixing as sooner or later there will be trouble. A print that is fixed improperly will show this defect usually before reaching the hands

of the customer. When sensitive silver-salts are exposed to actinic light, those parts of the print that contain such salts will usually turn pink during the washing of the prints, if this work is done in daylight; if not, then the defect will be discovered later during the course of finishing.

One should never use an exhausted bath, as the results obtained will not be permanent. Therefore, if it becomes frothy or suds remain on the surface when the solution is agitated violently, one should discard it and make up a fresh bath. However, a better method to ascertain when the bath has become exhausted is to keep an account of the number of prints that have been fixed in a certain quantity of solution, then when the number has been reached that the particular amount of solution has been tested for, one should discard the fixing-bath. This method also tells one that there has been no waste, and this is an important factor in all lines of business.

As stated before, a print that is fixed improperly contains sensitive silver-salts which upon exposure to actinic light will cause these salts to change to a pinkish tint, the action being slow or rapid according to the amount of sensitive silver contained in the emulsion. It matters not how long or how thoroughly a print may be washed, if there is any sensitive silver contained in the emulsion, those salts will slowly or rapidly change to a pinkish tint. If the print has been washed improperly, one will discover, in the course of time, the appearance of a yellow stain which gradually causes the image to fade; the action being slow or rapid according to the amount of hypo contained in the print. Therefore, it becomes evident that to make a print as permanent as the paper-stock upon which the image is supported thorough washing is necessary. All the sensitive silver-salts must be eliminated from the print that has not been reduced to a metallic form by the action of the developer. After this has been done, it becomes necessary to eliminate thoroughly all the hypo contained in the print so as to ensure its permanency.

Let it be remembered at this point that it matters not how long an exposure has been given a print, if the exposed print is not subjected to the action of the developer and placed in the fixing-bath it will eliminate entirely the silver-salts from the print, leaving a blank sheet of paper. Therefore, it will be seen clearly that the fixing-bath eliminates all the silver-salts that have not been reduced to a metallic form by the action of the developer, even though some of the remaining salts have been exposed.

A properly compounded fixing-bath will answer its purpose for all kinds of developing-out

papers. It should contain what is known as a hardener. The hardener is not absolutely necessary for the permanency of the prints, as one can use a plain hypo-bath and obtain prints that are just as permanent as those fixed in a bath to which hardener has been added. The acid hypo-bath is the practical one to use, for the reason that it can be used over and over again until it is exhausted, whereas the plain bath, that is plain hypo and water, must be made fresh every day; in fact, a new bath must be made up just as soon as it becomes slightly discolored. If one should ignore the above instructions, the resulting prints will be found to have a yellow stain, either generally or locally, for the reason that gelatine stains very quickly.

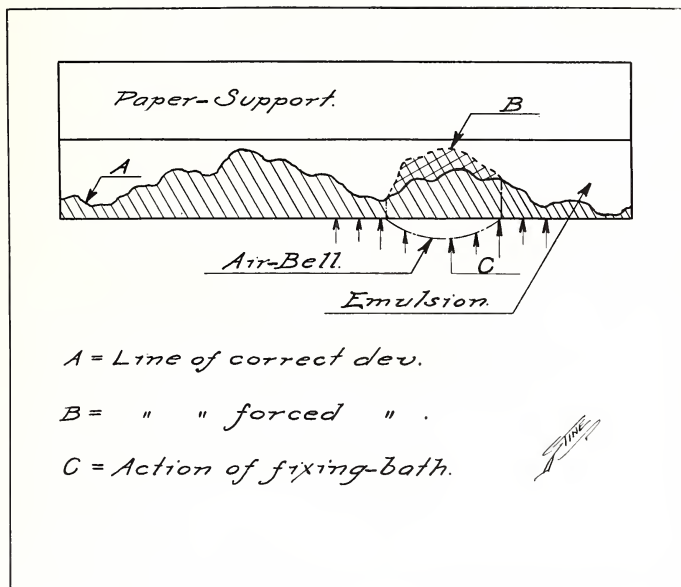
The plain hypo-bath can be used successfully during the winter-months, as all the solutions can be kept at a normal temperature; but during the summer months it is not practical for the reason that in warm weather the prints have a tendency to blister and frill. Since there are no chemicals in the plain hypo-bath to overcome this tendency, the bath becomes impractical—in fact, one should use a plain hypo-bath only when it is absolutely impossible to obtain an acid hypo-bath. This bath is undoubtedly the safest and best to use, for the very simple reason that the various chemicals contained therein preserve the bath until it has been completely exhausted—thereby preserving the color of the print—and it checks development immediately by placing the print in an acid state. Moreover, it hardens the emulsion so as to eliminate frilling and blistering.

If the prints have been placed into the fixing-solution unevenly, there is a possibility of air-bells forming on the face of the print, in which case if they remain during the fixing-period, one will find spots or possibly pinkish spots appearing on the face of the print. This is due to the sensitive silver-salts contained in the parts covered by the air-bells not receiving the action of the hypo. Therefore, the best remedy for this trouble is to separate the prints, occasionally, in the bath so as to eliminate this fault and to allow even fixation. Again, if one fails to separate the prints properly while they are fixing,—even though there are no air-bells,—it will be found that the parts where the prints are sticking together do not allow the bath to eliminate the free silver, and again one finds the same result, that pinkish stain. If one should fail to separate the prints properly while they are washing, one will find that in time those parts of the prints will begin to fade away just the same as prints that have been given but a few rinses of water to eliminate all the hypo. Water cannot eliminate

hypo from those parts when the prints are adhering tightly together; therefore, be sure to separate all the prints in the fixing-bath and wash-waters frequently and very thoroughly.

The temperature of the fixing-bath should never be higher than sixty-five degrees summer or winter, and never below sixty degrees. Many times during the summer-months, if one does not use ice to hold the bath at a normal temperature,

unnecessary length of time. This brown stain is nothing more than a sepia-toning of the print, and some method should be used to keep the bath at a normal temperature. If, however, this cannot be done, then the prints must be kept in constant motion for eight to ten minutes in a freshly made bath, after which, they should be washed thoroughly. In case one fails to keep the prints from becoming brown, locally



the prints will turn brown in spots while in the fixing-bath; in fact, in extreme cases the prints are found to be brown all over. This brown stain is caused by the temperature of the bath being too high, thereby making the fixing-bath virtually into a sepia-bath. The high temperature causes sulphurization to take place. Even though the temperature of the bath has gone to eighty degrees, if the prints are fixed hurriedly—as stated elsewhere—no brown staining will take place. The trouble, many times, is due to carelessness on the part of the worker who allows the prints to remain in the warm bath for an

or generally, due to the high temperature of the bath, one need not discard those prints, but simply place them into a hypo-alum bath until the entire print has turned to a sepia, which, of course, will eliminate the fault. However, prints that have been made for black-and-white and run through the sepia-bath will be found to be a trifle light, for the reason that a sepia-tone is light and more transparent than the tone of the black-and-white print. Black and white prints should be made a shade darker if one wishes to convert them into sepia.

After the prints have been fixed properly, they

should be washed thoroughly so as to eliminate all hypo. This should be accomplished either by the aid of running water for one hour or by twelve changes, allowing the prints to remain in each change for five minutes. It matters not which method of washing is used with regard to the permanency of the prints, provided one turns each print over in the wash-water at least every five minutes during the washing period, and a complete change of water at least every five minutes is made.

Occasionally, one will notice dark circular spots on prints while in the sepia-bath. These are impossible to remove successfully unless they are exceptionally small. There are many reasons for these marks; but the most common cause is slighting the handling of prints either in the acid short-stop or fixing-bath. When prints are placed in the bath, they must be immersed quickly and evenly so as to obtain even fixing; but if one slights his work and places the prints carelessly in the solution, face down, there is a possibility of air-bells forming on the surface of the prints and development continuing, thereby causing those parts to be darker in tone, although usually unnoticeable in the black-and-white print. If the air-bell remained during the entire period of fixing, the spot or spots would turn pink upon exposure to actinic light; but in most cases these air-bells are destroyed—in time to properly fix these parts—by the prints being separated occasionally in the bath. As stated above, these spots are not noticeable in the black-and-white print due to the tone; but are very noticeable after sepia-toning, for the reason that sepia-tone is lighter and more transparent than the olive-black and those parts under the air-bells are of a deeper sepia-tone than the surrounding parts due to prolonged development. It should be understood clearly that, to avoid this trouble, one should be very careful to keep the prints in constant motion during the first few seconds when prints are placed in the fixing-bath or acid short-stop so as to eliminate all troublesome air-bells. See Illustration.

The table giving the number of prints that can be fixed thoroughly in sixty-four ounces of bath is based upon the following excellent formula.

Solution A.

Hypo	16 ounces
Water	64 ounces
Dissolve and then add solution B.	

Solution B.

Water	5 ounces
Sodium sulphite (dried powdered)	$\frac{1}{2}$ ounce
Autic acid No. 8	3 ounces
Alum (powdered)	$\frac{1}{2}$ ounce

One should be very sure to dissolve each chemical in the order given so as to obtain an accurate bath. The fixing-bath, as stated before, should be used at a temperature of sixty-five degrees for summer and winter, although a little variation up or down is permissible.

Number of Prints that can be Fixed thoroughly in Sixty-four Ounces of Hypo-fixing-bath

Size of Print	No. of Sq. Inches	No. of Prints
$3\frac{3}{8} \times 5\frac{1}{2}$	21.31	250
4×5	20	266
4×6	24	222
$4\frac{1}{4} \times 6\frac{1}{2}$	27.6	193
$4\frac{3}{4} \times 6\frac{1}{2}$	30.9	172
5×7	35.	152
5×8	40.	133
6×8	48.	111
$6\frac{1}{2} \times 8\frac{1}{2}$	55.3	96
7×9	63	84
8×10	80	66
10×12	120	44
11×14	154	34
12×16	192	27
14×17	238	22
16×20	320	17
18×22	396	13
20×16	480	11

It has been found that sixty-four ounces of hypo and fixing-bath will fix thoroughly 250 ($3\frac{3}{8} \times 5\frac{1}{2}$) cabinet-prints; therefore, $3\frac{3}{8} \times 5\frac{1}{2} \times 250$ is 5328 square inches of area that will be thoroughly fixed by such a bath.

Problem. Find the number of 8×10 prints that this bath will fix thoroughly.

Solution. 8×10 equals 80 square inches in one 8×10 print. Bath will fix 5328 square inches, therefore 5328 divided by 80 equals 66 prints.

In bringing this article to a close, I should like to impress upon the mind the fact that the thorough fixing and washing of prints is of vital importance to one's photographic business.



The Soft-Focus Spectacle-Lens

LATIMER J. WILSON

THE painter who desires extreme realism in the rendering of his subjects, makes use of suitable canvas and brushes. He would hardly be expected to work on very coarse-grain material and use huge brushes if the size of his picture were small and the detail fine. On the other hand, if he were an impressionist, the material for his pictures would correspond more exactly to the broad rendering required. He would not try to cover a coarse-grained canvas by making use of miniature brushes, nor would he try for diffused and suggestive effects by using materials that were better applied in the rendering of minute detail.

In much the same manner, the photographer-artist selects the lens best suited for the rendering of his subjects. If he desires scientific accuracy of detail, he makes use of a lens that can produce such detail. But if he is a pictorialist, he makes use of a lens that best produces the charm of mystery and the vibration of sunlight. For the sharply defined detail, there is scarcely any lens better than the anastigmat as it works at a large aperture and is adapted to difficult conditions of light.

The camera-worker who has a fine lens, but who desires the diffusion of the soft-focus, need not go to very great expense to get what he wants. A meniscus spectacle lens can be used with much satisfaction in place of the fine anastigmatic objective, and the expense is trivial.

A lens that is designated in the trade as a meniscus plus 8 can be mounted upon a strip of lantern-slide tape so that it will be exactly centered and can be slipped over the lens-tube of the camera, the regular lens having been taken out of the tube. If a spectacle-lens of approximately the same focus as the combination that formed the original lens is used, the stops indicated on the outside of the tube will be approximate when used with the spectacle-lens.

The four-inch focus meniscus has been preferred by the writer, for several reasons. It provides a maximum speed with great diffusion at about $F/4$. Enlargements on bromide paper can be made satisfactorily. They correct the slight distortion due to the short-focus perspective. Stopped down to $F/16$, the plate $2\frac{1}{4} \times 3\frac{1}{4}$ is fairly sharp all over with the brilliancy characteristic of a more expensive lens. But $F/8$ produces a soft and pleasing diffusion.

There is the usual difficulty of handling any soft-focus lens, aside from the diffusion due to

spherical aberration which is an added feature with many of the spectacle-lenses. The principal diffusion is due to the chromatic aberration as is also that of the best soft-focus lenses. The violet rays come to a point in a plane nearer the lens than the green rays. The former are active photographically, whereas the latter, *i.e.*, the visual rays, are not sufficiently so. If the picture is made at the focus indicated by the ground-glass, the photographic rays will be out of focus and the result is likely to be an amount of diffusion that is unpleasant. There is an exception to this, if the exposure is made by a bulb electric light of yellow quality and a color-sensitive plate is used. Very beautiful results with three-second exposures have been made with a 40-watt Mazda on a panchromatic plate, using the visual focus and the full opening ($F/4$). In this case, the light performs the service of a yellow filter where only a small per cent of the violet rays make the diffusion.

If one wishes to photograph the diffusion as he sees it on the ground-glass at other times, it will be necessary to use a suitable filter and a color-plate. A few experiments will determine the best filter for any particular conditions of light.

When the visual focus and the stop that permits the desired amount of diffusion have been found, the lens should be racked back toward the plate until the image just begins to go out of focus. If spherical aberration is present in the lens, the decision becomes complicated by the factor of diffusion from that source; but experiments will decide again the best amount of change between the visual and the photographic focus. When these points for infinity and for intermediate distances have been found, it will be well to indicate them in some manner upon the edge of the focusing-apparatus.

For interiors at night and home portraiture, where dull lights are encountered and where there is need of comparatively rapid exposures, the spectacle-lens performs wonders if used with a small plate. The writer obtained a 26-inch focus periscopic plano-convex lens and adjusted it in front of the Tessar 1c ($F/4.5$). This made the Tessar work at a speed approximating $F/4$ ($F/3.9$ + extra thickness of glass) and introduced into the finely corrected optical system the chromatic aberration and other defects of the spectacle-lens. But it brought very beautiful effects of diffusion as well as the rapid exposure possibilities for working by artificial light—the ordinary illumination found in the average home.



THE FREEDOM OF THE SEAS

F. J. MORTIMER, F.R.P.S.



EDITORIAL



A Hint to Lantern-Lecturers

THE lecturer who frequently talks to the screen, instead of to the audience, is still with us. This is a fault committed by lecturers who use screen-pictures, and is usually an indication of thoughtlessness or inexperience. When such a speaker wishes to emphasize or explain certain points in a picture, he deliberately turns about and addresses his remarks to the screen—quite unmindful of the fact that his audience cannot hear him. The result is the same when, carried away by enthusiasm, he faces one of his favorite pictures and praises its manifold beauties. Now, the speaker should be so familiar with his subject that he will not be obliged to do this, although an occasional glance at the screen for the purpose of verification or inspection, or to refresh his memory, is unobjectionable. And it is perfectly proper for the lecturer to step out of his place of comparative obscurity and extend a hand or the pointer to an object in the picture, provided he does not turn his back on the audience.

A lecturer of the Editor's acquaintance begins one of his travels by showing a map of the route. Instead of engaging in the laborious and annoying performance of using a long pointer, he relies entirely on his lanternist, who, using a straight piece of wire, points out the route on the lantern-slide—plainly visible on the screen—closely following the speaker throughout a description that lasts several minutes. Of course, such an expedient requires to be carefully rehearsed and is well worth all the time and effort spent upon it. It spares the lecturer and also produces a good impression. In the projection of motion-pictures, this scheme is hardly practicable, and the lecturer will resort to the tactful use of the pointer.

Screen-pictures that are out of focus, through carelessness of the lanternist, are very annoying to persons in the audience accustomed to see things sharply defined. There is no excuse for fuzzy pictures, provided the slides are uniformly made. As we have pointed out in this department, many times, the fault lies with the lanternist. If his vision is imperfect, he lacks one important qualification and needs a capable assistant. The practice of focusing the initial slide, as a standard for the rest, is a good one; but in determining sharpness of definition, an opera-glass will be found very useful, particularly when

the distance from lantern to screen is one hundred feet or more. Indeed, it is a good plan to scrutinize the screen-picture with an opera-glass, occasionally, although there are lanternists who make it a practice to verify the sharpness of every slide the instant it appears on the screen. The lecturer is to be congratulated who has the assistance of so skilled and conscientious a lanternist.

A Missed Opportunity

THE English photographic press is inconsolable—and well may it be—because no photo-pictorial record was made of the meeting between the British and German admirals on the occasion of the surrender of the German fleet—an event of great historical importance. Our English contemporaries have reason to feel greatly chagrined, particularly, because a painter had been given special opportunities in order that the incident might be perpetuated by the painters' art, whereas pictorial photography was totally ignored. It is argued that the value of a painting, as a record, is very trifling, at least. Actuality constitutes the value of a pictorial record, and it is all the more regrettable that, while a distinguished painter was accorded the opportunity—which, for his art, was by no means a necessity—none of the leading pictorial photographers was given a chance to make that one kind of record, a photograph, which the public prizes as such beyond all others. Moreover, our English friends comment upon the absence of an enterprising photographic organization willing to secure official recognition in high official circles.

That such a state of affairs should exist, comes as a surprise to those who have always regarded the Royal Photographic Society of Great Britain as an organization of power and influence. Its officers and members are men of distinguished achievement in the sciences and pictorial photography, and include the veteran photographic scientific authority, Sir W. de W. Abney, K.C.B., F.R.S., etc., while, chief among its patrons, are their majesties the King and the Queen. It may be that, for the lack of a publicity-committee, the august and venerable society failed to get in touch with the naval high command. Or, it may have been a question of Mahomet and the mountain, and during the interim of one waiting for the other, the golden opportunity slipped away—past redemption.



ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.



Prizes

First Prize: Value \$10.00.

Second Prize: Value \$5.00.

Third Prize: Value \$2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, **but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.**

Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.*

4. *Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print exactly for what competition it is intended.*

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with double thicknesses of **stiff** corrugated board, not the flexible kind—or with thin wood-veneer. Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—Domestic Pets Competition

Closed November 30, 1918

First Prize: Paul Wierum.

Second Prize: Wm. T. Adderley.

Third Prize: Leopold Zwarg.

Honorable Mention: Louis Bausch, Harry Bowse, A. W. Cutting, Ethel Dismukes, James V. Dunham, W. E. Fowler, George W. French, Rayman F. Fritz, Gustav Glueckert, J. E. Horning, Frank E. Ludlum, C. A. Major, Alexander Murray, Wm. E. Neuser, Robert P. Nute, Maude Paget, P. P. Pinckney, J. D. Raynolds, W. H. Sargent, J. Herbert Saunders, W. C. Sawyer, W. Stelcik, C. B. Weed.

Subjects for Competition—1919

"The Spirit of Christmas." Closes January 31.

"Still-Life." Closes February 28.

"The Spirit of Winter." Closes March 31.

"Rainy-Day Pictures." Closes April 30.

"Miscellaneous." Closes May 31.

"The Spirit of Spring." Closes June 30.

"Landscapes with Figures." Closes July 31.

"Shore-Scenes." Closes August 31.

"Outdoor-Genres." Closes September 30.

"Architectural Subjects." Closes October 31.

"Domestic Pets." Closes November 30.

"Indoor-Genres." Closes December 31.



Photo-Era Prize-Cup

IN deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize (\$10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.



To Readers of Photo-Era

DESPITE the unprecedented conditions brought on by the war, PHOTO-ERA has maintained its supremacy in the field of photographic journalism. The 1919 issues will cover the epoch-making period of reconstruction and we advise subscribers to see to it that their subscriptions do not lapse. PHOTO-ERA will try not to disappoint you in 1919.



TOM SWAN

PAUL WIERUM

FIRST PRIZE — DOMESTIC PETS

Advanced Competition—The Spirit of Winter Closes March 31, 1919

WINTER-PHOTOGRAPHY is the exact reverse of photography in spring and summer. Therein lies its fascination. The technical and physical difficulties involved serve but to whet the photographic appetite of the really ambitious camerist. My own picture-making career began in January, because a thoughtful relative made me a Christmas-present of a camera. I did not choose winter-photography; it was thrust upon me. Obviously, I could not wait until spring to make pictures with my new camera; hence, it was picture-making in the snow and cold, or not at all. For this very reason I appreciate the difficulties and likewise the fascination to attempt to express the Spirit of Winter pictorially.

The camerist who makes a success of winter-photography is entitled to assume the same lofty air of superiority that is expressed by the man who is an early riser. Both men are making a success of something that many of us never attempt. To meet with any measure of approval from the jury, the photographer will have to leave his warm hearthstone—or

steam-radiator—and get out into the cold and the snow. Of course, it is possible for "arm-chair" camerists to content themselves with photographing the frost on the window-pane, the snow piled high on the door-step or a view from one of the windows. Nevertheless, first honors belong to him who trudges courageously through the drifts and releases the shutter when it is two below zero.

Lest I be misunderstood, let me add that I appreciate the fact that many camerists are physically unable to face severe conditions of weather; also, that many of our readers would have far to go to find a snow-drift. To most of us, winter implies snow and a low temperature; but to many, it is the most beautiful time of the year, when birds and flowers rejoice the heart. For this reason, I believe that it would be of interest to readers and the jury to have some of our good friends who live in Florida, California, Cuba and other warm climates, enter pictures that express the Spirit of Winter as it reveals itself to them. A beautiful day off the Florida Keys, with the brilliant sunshine playing across the water and snow-white yachts reaching away toward palm-laden islands, expresses the Spirit of Winter just as truly as another picture of a man shovel-

ing snow in New York or Boston. The calendar informs us that it is winter, whether we shiver with cold or bask in warm sunshine.

There seems to be a tendency for camerists to make a winter-picture as stereotyped as one depicting still-life. The flower-study and overturned basket of fruit have been done *ad nauseam*; and, now, we have the "snow-picture" with its "soot and whitewash" effect, and the immediate foreground filled with all manner of grotesque footmarks, sled-trails and other subterfuges "to break up the expanse of white." Moreover, the "blacks" in some of these "snow-pictures" are so black that even nature balks at such a disregard of true values. There are no coal-black effects in nature. The careful observer will note that there is always some light in very dense woodlands or deep mountain-gullies so that a *solid, heavy black* does not portray truthfully the actual conditions that exist in nature. Much of this trouble is due to underexposure. The eye sees the brilliant sunshine on the snow and is almost blinded; but the lens sees only the lack of actinic rays, and is not blinded to its inability to produce an image on the plate. In short, not the human eye but the brain is the deciding factor with regard to winter-photography.

The Spirit of Winter can be expressed photographically despite the technical difficulties involved. We, in the northern United States and Canada, instinctively associate this spirit with snow, ice, the bluish-green of the evergreens and the frozen brook. However, winter reaches the city as well; the struggles of steaming horses to maintain a footing on the icy streets; the hurrying crowds bending against the driving snow; the snow-shovelers hard at work clearing the streets; the electric-railway rotary snow-plows throwing the snow high into the air, and other winter-time activities in the city, offer many opportunities to the intelligent and resourceful camerist. In the suburbs and in the country there are the happy children with their sleds, the ice-skaters, skiers, tobogganists, rollicking sleigh-parties and snowshoes to tax the photographer's ingenuity. Along the waterfront or down the harbor many subjects of great pictorial value may be found. Ice-shrouded vessels, puffing tug-boats, sea-gulls among the ice-floes and bits of shore-line piled high with ice-jams offer many possibilities. The train-yards of railway-terminals with their clouds of steam and smoke should not be overlooked. Landscapes, immediately after an ice-storm or heavy snow-fall, may be utilized advantageously. It is virtually impossible to point out all the many winter-subjects that, properly handled, would make excellent pictures embodying the Spirit of Winter.

Participants should remember that originality must be combined with sound technical skill. It is possible to make a winter-picture that is original in treatment, excellent in technique and of permanent value to its maker, be he a professional or an amateur photographer.

No matter what the subject may be, the exposure is always of paramount importance. The old, but reliable rule, "expose for the shadows," is still very much in force. In connection with any form of winter-photography, great care must be exercised at all times with regard to the effect that intense cold may have on the lens and also on the shutter.

With regard to development, the aim should be to obtain a fairly thin negative, so that detail in the snow may be had without over-printing the darker masses of the picture. It is a mistake to portray snow-scenes in sepia; even blue-print paper is better suited to such subjects. The many excellent developing-papers,

now on the market, enable the camerist to obtain effects that are beautiful and true to life. Careful attention to the exposure, the density of the negative and the strength of the developer has much to do with obtaining the desired softness in the snow and definition of the background.

Strange as it may seem, I have been asked what lens is best suited to winter-photography. Any lens that produces a clear image on the plate may be used for winter-photography and excellent results obtained. I am of the opinion that my inquirer had a ray-filter in mind. Unquestionably, a ray-filter is of great value to emphasize the texture of the snow and to soften the glare of sunshine on ice; also, to aid the camerist to obtain true values in the shadows. Even at the risk of repetition, let me call particular attention to the importance of shadows—their formation, density and direction.

The Spirit of Winter competition offers technical, artistic and physical difficulties to tax the most ardent camerist. Commensurate with the difficulties are the rewards. Winter-photography offers an unequalled opportunity to test the temper of the photographer's steeled purpose to make good. In short, to make a success of winter-photography augurs well for success in spring and summer camera-work. To the man or woman who loves photography, every opportunity to advance is welcomed with eagerness. "Show me the problem and I will solve it!" should be the exclamation of every worth-while camerist.

A. H. B.

Luminous Dials and Labels

LUMINOUS compounds for dials, gun-sights, etc., also for labels in the photographic darkrooms, are made mostly from a specially prepared zinc sulphide, which contains a small amount of sodium or zinc chloride to promote the luminous activity. This zinc sulphide is mixed with about 4 parts per 10,000 of radium bromide or its gamma-ray equivalent, and this mixture in powder-form shows a light-power about equal to that of white paper under the rays of the full moon. If not protected, it loses about half of its light-power in 100 days, but when mixed with varnish the stability is increased about fourfold. Other colloidal bodies also add to the permanence of the mixture.

Bulletin of Pharmacy.

Toning without Gold

It is perfectly possible to obtain prints of a good rich color on printing-out paper without the use of a toning-bath containing gold, and the knowledge of this fact may prove serviceable at the present time, says the editor of *Amateur Photographer*. As is well known, the ordinary combined toning-and-fixing bath will go on toning prints long after the gold is exhausted; but the results so obtained—due to a form of sulphur-toning—have rightly been under a cloud in the matter of permanence. There seems to be no reason, however, why the sulphide-toning method which is now so extensively used for bromide and gaslight prints, should not be applied to prints on printing-out paper, if it is thought desirable. The printing should be carried deeply, and the prints fixed and washed thoroughly. The brownish yellow image obtained in this way, can be converted into one of a pleasant warm color by immersion in a weak sulphiding-solution, without any preliminary bleaching. A complete change into silver sulphide can be brought about by bleaching and sulphiding, and where a permanent result is required, this is what should be done in every case.



IMPUDENCE

WILLIAM T. ADDERLEY

SECOND PRIZE — DOMESTIC PETS

Causes of Impaired Definition

MANY photographers have come to regard good definition as depending entirely on the quality of the lens, but this is only very partly the case. The definition of a first-class lens may easily be spoiled by very simple causes, for example, a layer of dust on the glasses, to cite one of the causes which is often overlooked. Faulty definition, for which one of the best R.R. lenses was blamed and almost discarded by an operator who had previously used and had a preference for anastigmats, was traced recently to the camera-front being loosely supported on loosely-screwed struts. Observation showed that when the front was loosely screwed the action of the roller-blind shutter caused a slight vibration. We have seen many operators work with struts, etc., far too loosely screwed, in some cases so much so that the pressure of a finger was sufficient to move the front- or swing-back. In copying-work, when a long-bellows extension is employed, rigidity is essential, for, if this is not the case, there is a tendency for the front to be drawn by the bellows, which produces a loss of rigidity that would not be evident at a shorter-bellows extension. Another point that needs attention, when work of this kind is being done, is vibration from heavy traffic in the vicinity. Having the original and the camera on the same solid support is a partial, but by no means complete, solution of the problem, which is to be regarded as having everything screwed as firmly as possible. If there is a separate space between the camera and the original, any vibration such as a person

walking about the room, if the floor is not particularly firm, has been known to cause poor definition, for which the lens has received the blame. The tripod, again, receives very little attention from many operators. More often than otherwise, its rigidity is cut down in order to permit lightness, or a flimsy tripod is employed for a heavy camera—another fruitful cause of poor definition. Often, too, the operator devotes too little attention to set up the tripod or fix the legs firmly, and when outdoor-work is being done, especially if there is any wind, impaired definition is bound to result.—*British Journal*.

Drying Negatives

It is agreed that the faster a photographic plate is dried, after being developed, fixed and washed, the better. When available, the electric fan is a most desirable agency to this end. In advising its use, however, authorities do not always mention its ability even in ordinarily clean surroundings, to stir up dust which is deposited on the moist surface of the plate where it adheres, becoming permanently fixed in the emulsion, as the latter dries. If before the wet plates are put in front of it, the fan itself as well as the table or bench on which it stands, is gone over with a damp cloth much of this undesirable result is avoided. Also, if the plates are laid back down on the table so that the air from the fan passes *across* the emulsion, instead of standing them on edge so that the air is driven *against* it, there is less trouble from dust, and drying is somewhat more rapid.

McMORRIS HOUSTON, M.D.



FEEDING HIS BUNNY

LEOPOLD ZWARG

Photographing China

WHEN photographing porcelain bric-à-brac and similar subjects, it is very important to show the pattern clearly and in its correct light and shade, for which purpose a panchromatic plate and a suitable color-screen will be found invaluable. The lighting must be arranged carefully, so as to avoid staring reflections likely to interfere with the proper display of the pattern; but, at the same time, some reflections are a necessity to brighten up and to suggest the character of the ware. It will be found that the best way to get what is needed is to use as large a diffuser as possible, so as to do away with patchy reflections: bearing in mind that the way to dodge reflections which are not wanted is not to attempt to tamper with the reflecting surface, but to remove or cover up the bright object which is being reflected.

The nature of the background will be governed by that of the object. A sheet of card, or a board, over which black velvet has been stretched, makes a very suitable background for many such things; but, in some cases, a plain white card, or gray, may be used.

Vessels with an opening at the top, such as vases, cups, etc., should be photographed with the lens slightly above the top of the opening so as to show it. If need be, the camera-front may be dropped a trifle, so as to

bring the picture well on the plate. A fairly long-focus lens for the size of plate adopted should be used to avoid any unpleasant foreshortening.

The Amateur Photographer.

Safe Lights and Panchromatic Plates

PANCHROMATIC means sensitive to all colors, and it is evident, therefore, that the truly panchromatic plate will be sensitive to any darkroom-light, no matter what may be its tint. Experience shows this to be the case; and a safe light, even one made specially for panchromatic plates, will soon fog them if they are freely exposed to it. The secret of the use of any light with such plates, if it is a secret, is not to expose the plates to the light at all in filling or emptying the plateholders, or in the earlier stages of development. When development is nearly finished, they may be looked at cautiously, as the sulphite in the developer deprives them to some little extent of their color-sensitiveness; while even if the light should fog them, being at that stage when the development is nearly over, there is less chance of the fog so caused being developed far enough to become a source of trouble. But in any case the exposure should be very brief.—

The A. P. and P.



THE CRUCIBLE

A MONTHLY DIGEST OF PHOTOGRAPHIC FACTS
With Reviews of Foreign Magazines, Progress and Investigation
Edited by A. H. BEARDSLEY



Watch-Dial Pictures

THERE appears to be a renewed interest in the decoration of watch-dials by means of photography. Several methods may be used, one in particular is very popular. Sensitize a talc'd piece of glass with a collodion-chloride emulsion. When thoroughly dry, print the reduced portrait—using a suitable oval or other shaped mask—tone and fix in the usual way and dry over an alcohol-lamp or set aside to dry. Then soften the film with methylated spirit and soak in water that is acidified with a few drops to the ounce of acetic acid. In this bath the film is floated off easily by gentle manipulation with a camel-hair brush. Pass a sheet of paper beneath the film—while under water—and lift it out carefully. With the film resting on the paper it is easy to cut out the portrait along the lines of the mask with a pair of small, sharp scissors.

Next, place the portrait on its paper-support in a dish of plain water and the film and paper will separate. Take the watch-dial—previously albumenized—and place it beneath the film in the water and with a camel-hair brush gently get it into position, being careful to avoid air-bubbles. Lift the watch-dial from the water and allow it to dry naturally. Clement J. Leaper's formula for collodio-chloride is well suited to this method, and is as follows:

- a. Alcohol, 1 oz.; Ether, 1 oz.; Pyroxylin, 12 grs.
- b. Silver Nitrate, 60 grs.; Water, 1 dr.
- c. Strontium Chloride, 64 grs.; Alcohol, 2 oz.
- d. Citric Acid, 64 grs.; Alcohol, 2 oz.

Mix 30 minims *b* with the whole of *a*, add a drachm of *c* and half a drachm of *d*. Shake well after each addition, and coat at once.

Green Color-Screens

It must be nearly a quarter of a century since Mr. Burchett advocated a green color-screen in place of the usual yellow one for landscape-work. Theoretically, he was wrong, and the theorists lost very little time before telling him so; but in practice the Burchett screens gave very good results, as we ourselves can testify. Possibly this was due to the excellence of the correction given by the yellow element in the screen. Now that panchromatic plates can be bought, in which the red sensitiveness has been carried so far that they show an almost even depth of deposit from one end of the spectrum to the other, Mr. Chapman Jones, writing in "Nature," observes that to secure correct luminosity "it is clear that we must use a color-filter that will gradually tone down the action of the red and the blue, giving a curve of transmission similar to the luminosity-curve of the spectrum—and such a filter will be green." He contends that a yellow filter, such as is adopted generally, will leave the reds—and colors such as yellow, of which red is a component—too light, and suggests that, of the well-known dyes, naphthol green approaches nearest to what is wanted. In actual practice, however, it will be agreed, we think, that such a screen as the K. of Wratten and Wainwright, used with either an Ilford or a Wratten panchromatic, leaves little to be desired.—*The A. P. and P.*

Color in Negatives

THERE are many workers—among the professionals, especially—who seem to think that a negative free of color, and black with or without gradations, according to requirements, is the highest desideratum. On the other hand, there are those who prefer some color (uniform, of course) in the negative, but do not always succeed in getting it. The *Amateur Photographer and Photography* states that whether a negative shall be yellow, brown, greenish, or black, is almost entirely a matter of the proportion of sulphite present in the developer; and so may be adjusted to suit the taste of each worker. Except that a very high proportion of sulphite leads to that graying of the image known as "sulphite fog," and that an unnecessary quantity is needlessly expensive, there is no reason why each photographer should not vary the amount given in any development formula at will. What is important, however, is to decide on the quantity to be used and to keep to it; otherwise, there will be trouble from negatives over- or under-developed. In a yellow or yellowish brown negative an image which looks very thin to the eye will give a vigorous print or enlargement; whereas a pure black image of the same visual intensity will be almost too weak to print, except on a gaslight paper that gives strong contrasts. Moreover, in the red light of the darkroom it is not possible to recognize the color which the negative will possess finally, which is another reason why an effort should be made to obtain uniformity in it.

Reflectors in Lanterns

A CORRESPONDENT suggested to us recently, states the *Amateur Photographer*, that it would bring about a great gain in the light given by an enlarging-lantern if the illuminant were provided with a reflector, such as is to be found in most lanterns of the ordinary type. As a matter of fact, although most enlarging-lanterns are not provided with reflectors, there is in some instances a slight gain in the light when a reflector is used. Some illuminants, such as the limelight and the Nernst lamp—to name two examples—do not admit any reflector, since the part that is behind the light-emitting surface is opaque; but others, such as acetylene, are not opaque. That a flame is not opaque, and therefore that the light in a given direction is increased, when one flame is set behind another is well known, though apt to be overlooked; and in such cases there is no reason why a reflector should not be used behind the light. In fact, it often is used. It does not bring about the great increase in the illumination which might be expected, because the only light which counts for much when we are using a condenser is light which proceeds to the condenser from a small central illuminated area, and very little of the light reflected by a mirror follows this path. A parabolic mirror with the light at its focus is quite useless in lanterns in which a condenser is employed, as its characteristic feature is that it sends all the reflected rays forward in one parallel beam; in other words, we get from a parabolic mirror a cylindrical beam of light equal in diameter to the mirror itself, which with a condenser is precisely what is not wanted.



BEGINNERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.



Prizes

First Prize: Value, \$2.50.

Second Prize: Value, \$1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is "*Miscellaneous*"; but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than **two** years' practical camera-activity, and without any practical help from friend or professional expert. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from $2\frac{1}{2} \times 3\frac{1}{2}$ to and including $3\frac{1}{2} \times 5\frac{1}{2}$ inches, and enlargements up to and including 8×10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.* ***Criticism on request.***

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives after he shall have received official recognition.

7. *Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print for what contest it is intended.*

8. Competitors are requested not to send prints whose mounts exceed about 11×14 inches, unless they are packed with double thicknesses of **stiff** corrugated board—not the flexible kind, or with thin wood-veneer. Large packages may be sent by express.

Awards—Beginners' Competition

Closed November 30, 1918

First Prize: S. G. Kobayashi.

Second Prize: None awarded.

Make Photography a Source of Pride

EVERY year several thousand beginners enter the ranks of amateur photographers. Some do so intentionally and others have photography thrust upon them at Christmas-time by fond relatives or friends. No matter how the beginner becomes an amateur photographer, he should make his photography a source of pride at the very outset. There is but one way to have honest pride in photography and that is to do the developing, printing and enlarging oneself. Of course, it is not always possible to do this work; but every beginner should manage in some way to do enough of it to master the principles involved and to be able to turn out a well-developed negative, a good print and a satisfactory enlargement.

Many beginners would be glad to do their own photo-finishing were they not deterred from doing so by fear of staining, defacing or otherwise injuring private property. As a matter of fact, modern methods of developing, printing and enlarging virtually do away with any possibility of permanent or even temporary injury. Of course, the human element must be considered; but the beginner who is neat and careful need fear no censure from relatives, friends or landlady. The many excellent developing-tanks now on the market—used with a changing-bag if necessary—do away with the need of a darkroom. Almost all printing is done now by artificial light on developing-paper. With regard to enlarging, there are methods and enlarging-equipments galore. All in all, there is no reason why the beginner cannot do his own work from the outset, and thus attain skill and pride in photographic advancement.

A good habit to get into is to refrain from showing any negative, print or enlargement that does not represent the very best effort. Do not show a friend a print that must be accompanied by excuses for its appearance. Let there be no halfway about it—either the print is the very best that could be made or it is not. If it is not—do not display it; better yet, keep it out of sight. I realize fully that the beginner's maiden effort at printing is a great event and one that he feels must be shared with the world at large; but unless he produces a creditable piece of work, it is far wiser to wait until he need make no excuses. Sometimes, as in my own case, the first pictures are very successful and the beginner has every right to be proud of his work. Unfortunately, this first success is often followed by an ignominious failure to repeat the previous performance and again explanations and excuses are in order. Hence, the average beginner will do well to confine his first public photographic exhibition to pictures of which he need not be ashamed.

The photo-equipment needed by the beginner to-day requires very little room and may be had at a moderate price. A developing-tank, film-clips, stirring-rod,

FIRST PRIZE
BEGINNERS' COMPETITION



AICHAN

S. G. KOBAYASHI

graduate, three trays, printing-frame and piece of cheese-cloth will enable the average beginner to obtain excellent results. Obviously, chemicals and paper must be purchased; but it is not necessary to "stock up" as in the old darkroom days. I have developed negatives and made prints in a hall bedroom with no greater water-facilities than a wash-bowl and pitcher. Moreover, no trace of my photo-finishing was left behind. It is a fact that an excellent developing and printing outfit, including necessary paper and chemicals, may be carried in an ordinary suitcase. The simpler the first equipment can be made, the better for the beginner. There are literally hundreds of accessories that may be added later; but the beginner will do well to confine himself to the essentials at first.

Those of us who know something of photography and love it the more we know of it, like the old-fashioned darkroom. By that I mean a room in the cellar or attic especially built and equipped for all manner of photographic work. The beginner who is possessed of time and the necessary affluence will enjoy a darkroom; not because it is a darkroom, but because it is a room that is immune from complaint, interruption or inquisitive visitors. A modernized darkroom need not be a repulsive, evil-smelling "hole in the wall." On the contrary, it may be as light and airy as any room in the house. The difference being that all things

within its four walls are photographic and may be so *ad libitum*. The advantage of the darkroom is that it offers a place in which the beginner can experiment or conduct his own researches as long and as late as he chooses. Moreover, he can keep all manner of chemicals, plates, films, paper and other photo-equipment in view and of easy access. He never conflicts with other members of the household and, in short, the modernized darkroom is a *de lure* "classroom" for the beginner to master photography.

Whatever the photo-equipment may be—humble or luxurious—never lose sight of the fact that it is the finished product that counts. The most beautifully equipped darkroom in the world will, of itself, not produce satisfactory pictures. True, the added conveniences make the necessary manipulations easier and more pleasant; but the beginner's mind and heart must be in the work for him to make good. In my opinion it is always preferable to begin in a modest way and then to add needed accessories as time and finances permit. Photography is not a sport but a science. To master it requires more than just a love of sport or pleasure. Beginners should take their work seriously; for the more interest, study and hard work that they put into photography, the more beautiful, artistic and enduring will their pictures become. There is no need to take the work so seriously that pleasure is eliminated. However, for the beginner's

own good let him err on the side of serious work, for it will pay him a hundredfold in the end. Let him once take pride in his camera, equipment and pictures and there is no need to stimulate his interest in photography. In it, he will find recreation, education and health. Because of it, he will learn to love the beauties of nature and to understand human nature to better advantage. Best of all, photography will give him an insight into the lives of others, and this experience cannot fail to have a salutary and ennobling effect upon every right-thinking camerist.

A. H. B.

Our Beginners' Competition

IN the belief that participants in the Beginners' Monthly Competitions should be accorded greater freedom, we have extended the period of personal practical experience to two (2) years, instead of to one year, as heretofore.

Utilizing Old Safety-Razor Blades

EDITOR OF PHOTO-ERA: For efficiency and dispatch in unconventional trimming, discarded safety-razor blades are unique in themselves.

Neither the scissors nor the trimmer were ever found where they would prove the most useful; so I supplemented these two articles by safety-razor blades. By judiciously sprinkling two dozen of these old blades about the house and darkroom, there was always at least one nearby upon which I could quickly lay my hands.

One of these blades was always kept on top of the enlarging- easel. When the bromide paper was hung, I used this blade to trim along the orange image thrown upon the paper and, as a result, I always had plenty of test-paper for future enlargements. Moreover, there was little, if any, bromide paper wasted.

I use mounting-tissue almost exclusively and, in this mode of mounting, these blades help me greatly. I trim the tissue roughly with one of these blades—then mount. Any tissue that overlaps is trimmed away by the blade and there is absolutely no tissue, nor mark, to show.

Most etching-knives are too stiff; at least, I have found only one that was not—a safety-razor blade.

These blades are easily sharpened. A piece is broken off when the point becomes dull and a brand-new, needle-sharp point is the result. Of course, the cutting-point is the concourse of the longitudinal and latitudinal sides.

FRANK KING.

Improvised Trays

EDITOR OF PHOTO-ERA: Did you ever start out on a developing-bee and break one of your trays; or find that the tray you wanted was in use; or that the largest tray you had was just one size too small for the work you were undertaking? You may not be guilty of any of these pin-headed predicaments and yet want to improvise a tray at short notice. Here are two methods I use. They are not patented and, no doubt, others have tried them.

It consists of a good, strong paper-box in the form of a lid from an 8 x 10 dryplate-box, which was set on a warm stove and a block of paraffine rubbed over the bottom and sides until the paper was well saturated. I used this box all summer for a hypo-bath. It is hardly strong enough to carry filled with liquid, but it will last if left stationary or carried on a board.

For larger boxes, I take shallow wooden boxes and line them with oilcloth. I fold the oilcloth in the corners so that there is no seam and tack it along the top edge of the box. I have a series of sizes up to 18 x 24 and find them so convenient, that I forget to use my trays. I have just made two boxes, 4 x 4 x 20—one to develop and the other to fix roll-films. I unroll the film, double it over, back to back, and fasten the ends together. Then I give it a rinse in cold water to soak the film and make sure that it is not going to "kink." Then I put it into the developing-box, possibly putting a board over it and starting the next film. With a ten-to-twenty-minute developer I keep four films going. Occasionally, I rock the tray or turn the films in the developer to avoid air-bubbles or unevenness in development. In the meantime I have two rather expensive developing tanks standing on the shelf above. I presume that without these, the result would be about the same.

C. O. CARLSON.

Cold-Weather Conditions

WINTER once more reminds us of the disabilities under which the photographer works who does not make due observance of the effect of cold in photographic manipulations. A lack of quality in both negatives and prints is one of the chief defects that occur with the use of cold solutions, and in the case of some developers the action ceases almost entirely. There is also the danger of moisture condensing on lenses, either of cameras or enlargers, or on the condensers, when these are being used in a cold darkroom. Many enlargements considerably veiled over and with every evidence of fog have been sent to us, to explain the trouble; and there is no doubt that in each case it was due to the condensation of moisture on the lens and condenser of the enlarger. Every care should be taken to keep developing-solutions up to a reasonable temperature, certainly not lower than 55° Fahr., if good bright negatives and prints are required. If possible, also, the workroom should be warmed before starting work, not merely from the point of view of comfort, but to avoid such troubles as we have indicated.

The Amateur Photographer.

Acid or Plain Hypo-Bath

AMONG the topics of discussion at a recent meeting of the Royal Photographic Society was the preference of a plain hypo fixing-bath over an acid one, and vice-versa. In the opinion of F. F. Renwick, F. C. S., an acid bath was found to fix more rapidly than a plain one in connection with negatives whose gelatine-film had become thoroughly charged with the products of oxidation of a developing-agent such as pyro. Because of the fact that the acid fixing-bath produces a solvent action on these products, which are supposed to be in the nature of a stain, the fixing-bath is quickened thereby in its proper function of rendering soluble the unaffected silver bromide in the film. It is obvious that in these circumstances the acid bath has the two-fold advantage of more rapid fixation and more or less positive removal of stain caused by the developer. Under ordinary conditions, *i.e.*, in the case of negatives free of anything more than a minute amount of developer-stain, a plain solution of hypo without any addition has hitherto been shown to be the most rapid in its fixing-action, and on the further ground of its simplicity its chemical behavior is to be preferred wherever the anti-stain effect is not necessary.

Competent Assistants

It seems as if master-photographers are at last becoming alive to the fact that competent assistants cannot be obtained without some proper system of training or teaching, and that in most parts of the country there are no facilities for such training. In the past, the rate of remuneration for the great bulk of photographic workers has been so wretchedly low that it has not attracted the class of young people who were inclined to spend their spare time in study, and, therefore, the industry has had to depend upon those who drifted into it, and by watching what went on around them managed to fill vacancies as they occurred, often leaving these for some other occupation which offered a better return for their labor. We remember our surprise, when visiting a large factory, at finding an old acquaintance, who had formerly been assistant operator to one of the best-known photographers in England, driving a stationary engine. Upon asking why he had abandoned photography, we were told that the job was worth ten shillings per week more than Mr. Blank had ever paid him, and that the work was less exacting.

It was formerly the custom for photographers of good standing to take "articled pupils," with whom they received a substantial premium, for a period of one or two years, but very often parents and guardians had to complain that the youth was put to routine work, and received little real instruction. In several cases, which have come under our notice, premiums have had to be returned to avoid legal proceedings. Now the custom seems to be to take a youth as a sort of errand-boy or as help to the printer, and let him pick up such scraps of knowledge as fall in his way. His superiors had learned their business in the same fragmentary way, and working by rule of thumb could not impart efficient instruction, even were they disposed to do so, which they seldom were—seeing in the lad a possible supplanter as soon as he knew as much as they did.

Now this has all got to be changed. In the great wave of reconstruction which is sweeping through the country, photographers must play their part; they must help in the work of making the nation one great body of efficient workers, and those who are unable to take part in the training of the rising generation must do all in their power to facilitate the work of those who can. It should be a point of honor in the photographic as in the medical profession for every skilled practitioner to impart his knowledge to those who are to follow him, and to co-operate in such schemes of local technical education as may be formulated. The Edinburgh photographers have foreshadowed such a plan, and, once the way is shown, other districts will doubtless follow. The Ministry of Pensions is doing its best to train men who are incapacitated from following their former laborious occupations in various lighter trades, and photography is one of them. A certain number are already placed in situations and are giving satisfaction, as they acquire by workshop practice that dexterity by which they can utilize the theoretical and practical knowledge they have obtained in the classroom, and we are sure that photographers will gladly avail themselves of their services. One point to which we would draw special attention is that the Ministry will not instruct a man in any trade in which he cannot earn a living wage, the minimum being two guineas (810) weekly. There should be no difficulty on this score, for in other trades employers have learned that the man who will work for low wages is a bad investment. An operator who uses plates lavishly to obtain satisfactory results, or a printer who wastes paper, is not only a source of actual loss on that account, but he

delays delivery and spoils the reputation of his firm by turning out work which is only just good enough to pass. In the past, many photographers have been averse to employing youths who have been trained in Polytechnics and other technical schools, on the ground that the theoretical knowledge so obtained was of no value in everyday work; but this is a mistaken idea. The novice who understands why certain things are done, is much more likely to learn to do them skilfully than if he merely picked up the manipulative part from watching another man who has perhaps totally erroneous ideas on the subject, whereas he will certainly have more pride and pleasure in his work when he has an intelligent grasp of his subject. At one great concern in America all the assistants are put through a course of instruction which would enable them to pass the City and Guilds Examinations here without difficulty, and we should be glad to see the same thing done by our great manufacturers here. On the other side, highly trained demonstrators are placed at the service of professional photographers so that they may learn how to produce the best results from the materials supplied to them, but here such demonstrators are few, and hitherto their energies have largely been expended upon lecturing to amateur societies. It would be a good beginning if a short course of instruction in both the technical and artistic sides of photographic work could be given at the annual Congress of the P. P. A., which we trust will soon be resuscitated, admitting assistants as well as employers. Very much useful work has already been done in this way, but much more has to be done, the great need being that some system should be established rather than that sporadic lectures and demonstrations be given. From the reports of the various American Congresses we learn that the best operators show how they obtain their effects, while others demonstrate the working of plates, papers and developers.

One great failing with many photographers of the old school is secretiveness. If one of those fancies that he has discovered or has imparted to him any method of working which he thinks is not generally known, he will hug it to himself, and while receiving all the benefits of other people's experience grudge his one piece of knowledge, which we may remark is usually something which has been published times without number, but as such people rarely read photographic literature they imagine it to be their exclusive property. We remember some years ago being presented with the formula for the mercuric iodide intensifier under a strict promise of secrecy. The chagrin of the donor on having it shown to him in the *Almanac* was ludicrous; for years he had mixed it himself so that his assistants should not learn the formula. Such practices do not tend to produce good assistants, who in their turn will strive to utilize for the employer's benefit any useful information they may glean. Let us say again to master photographers that the times call for the working out of a plan of practical instruction that will produce competent assistants, who will do yeoman's service while their employers look after the artistic and financial side of the concern.—*British Journal*.

Fallacies

HUBBY: "Why does a woman say she's been shopping when she hasn't bought anything?"

WIFEY: "Why does a man say he's been fishing when he hasn't caught anything?"

Or, why does a camerist say that he's been out photographing when he returns with results that are failures?



OUR CONTRIBUTING CRITICS



YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us, postpaid, a copy of "Pictorial Landscape Photography" by Paul Lewis Anderson, price \$1.50.

WITH suitable setting, the models—well-posed, natural, and interested in their game as they are—would constitute, though the theme is hackneyed, a pleasing picture. The girl particularly plays her part well. But the poor unobtrusive little things are almost lost in the midst of a foreground and background that resemble Poe's loud alarm-bells in that "They can only shriek and shriek out of tune." The highest tone in the composition is the stand-cover; the lowest, the opaque shadow under the chair. The children, who should be accented, are midway. The chair with its atrocious upholstery pulls the eye to the left margin. And why include windows and lamp when, obviously, neither is the source of light? If—and is the supposition far-fetched—the motive is to portray lamp, chair, and curtains, why not name the picture "Home-Interior" and leave the youngsters out?

BERT LEACH.

WILL the amateur ever learn what the proper functions of the background are? The function of the background is primarily to "keep in the background" and not to be clamorous for recognition. In the present instance—assuming that the photographer is trying to show us two children playing checkers—the eye is first caught by the highlights in the curtains, then by the bright figures in the chair, then by the figures in the carpet. In the meanwhile the highlights on the

stand and lamp-shade are struggling for recognition. Next we notice the white dress on the girl, whose hand finally leads us to notice the boy who is her partner. At last, by an effort of will, the beholder arrives at the conclusion that the photographer is trying to show us two human figures. The result is the same on the human mind as though one were trying to tell a story or sing a song while an auto is being "tuned up" in the backyard, a noisy street-car is passing and some one is playing a phonograph in the same room—all at the same time. One of the first lessons in composition is to study the background of the proposed picture and to make it subdued primarily, and next to make it harmonize with the main interest by reinforcement or by quiet contrast.

E. L. C. MORSE.

IN this print Mr. Still has fallen into the error of including too much in his composition. There are many elements which distract the attention from "The Game of Checkers." The chair on the left together with the lamp on the table dominate the print and the children become secondary in importance. They appear dwarfed by the lamp because of its commanding position well up above the children's heads, and directly in the center of the print. The patterns of rugs and lace-curtains show clearly, and are intrusive. It is unfortunate that the girl's head is turned slightly away, making the face merely a silhouette. The vertical lines showing between the curtains are also distracting. I think a little more powder or greater use of reflectors would have softened the harsh glaring whites. As it is the girl's hair-ribbon is almost lost



THE PICTURE CRITICIZED THIS MONTH

against the curtains and the white table-covering stands out sharply against the table-legs. However, Mr. Still has attempted the most difficult branch of indoor-photography and is to be commended for a pleasing child-study.

H. J. SHIPTON.

HERE is a picture divided into two equal parts of light and dark. Two disagreeable upright lines divide the light half into three almost equal parts; these are the first disturbing elements to strike one. Then, the unreality of the scene dawns upon one's consciousness—a flashlight for a subject quite unsuited to that mode of lighting. Naturally, one supposes that children playing checkers would need a continuous source of light, and it is quite evident that the lamp is not throwing out very much. It seems to be there merely in an attempt at composition. The position of the girl is good and her dress carrying down the light, half into the dark half of the picture, helps a little toward saving the situation, in spite of figures and board being in a straight line with the rug—another displeasing effect. The faults are all exaggerated by over-development.

MAUDE PAGET.

CHECKERS! And my move! Very well, I'll begin. Right curtain to left curtain, jumping the lamp; left curtain to carpet, removing the arm-chair; and then carpet to right curtain, taking the table. My next play would be to leave the curtain and approach the flashlight-operator. On reaching the square next to him I would, kneeling, plead that he move from the space behind the girl to the one behind the boy. I would explain to him that this would cure the poor girl's black eye—whole face, to be accurate—and tell

how the reflection from her dress would light up his face. I am positive that he would change his position when I told him that at present it is hard to see where the boy stops and the carpet begins. Lastly I would lower the top line one inch, darken the curtains—and let the game continue.

HERBERT BERNSTEIN.

THE girl is fine, nicely placed, comfortable and really interested in her game; it is her move. The boy is uncomfortable in his cramped position, and his use of the left hand is repulsive, unnatural. To avoid hiding the play the photograph has caused the boy to fold his right leg and arm to such an extent that we wonder if he unfortunately has lost these members. And to add to his discomfiture, a large chair cruelly penetrates his shoulder. The opening between curtain too evenly divides background, which is as sharply defined as the foreground. There are no planes and no atmosphere. The stand suggests the idea of dwarf figures. The flashlight, however, has been nicely executed.

LOUIS R. MURRAY.

AN interesting genre spoiled by a "too-busy" background. The large chair, at left, monopolizes most of the attention and the table and lamp in center comes in for second choice, the lace-curtains, also, are a disturbing feature. Both players seem about to move at the same time, it would be better if one were about to make a play while the other was looking on. The little girl's face is much too dark. The subjects should have been posed in front of a darker and plain background and a reflector used to lighten up the face of the little girl.

HARRY G. PHISTER.



OUR ILLUSTRATIONS

WILFRED A. FRENCH



THE place of honor in this issue is given to George Alexander, of Chicago, a photo-pictorialist of first rank. He has enjoyed this distinction for many years. In mentioning the Second International Salon of Los Angeles, where Mr. Alexander was represented by specimens of his work, it is only fair to state that this institution honors him as much as he honors it. PHOTO-ERA, which has published examples of his artistry in the past, has always paid tribute to his masterful interpretation of the message of the flower. The impress of his artistic personality is as unmistakable as it is impressive. In the present instance, one is struck by the originality of design, the breadth of treatment and truth of values. The picture makes a delightful frontispiece and cover-decoration, and a fitting introduction to Mr. Kales' review of the Los Angeles Salon. It deserves to be studied carefully by those who practice flower-photography, but who fail utterly to produce a single truly artistic result. It is natural that flower-subjects should excite the camerist's active attention; but it is strange, but true, that relatively few workers succeed in this apparently easy branch of photography. Data: composite print, the blossoms having been photographed indoors in subdued light, with an R. R. lens, at stop F/32, exposure two minutes, 5 x 7 Ortho-plate, pyro. The rest of it was made out of doors on a 5 x 7 plate, pyro. The two negatives were combined, the finished negative being 11 x 14 and printed in gum on Whatman paper. "The Promenade," page 60, is a novel and pleasing departure from the series of architectural masterpieces which W. H. Rabe has contributed to these pages, occasionally, since the close of Panama-Pacific Exposition, at San Francisco. The composition is strikingly original and consistent. Of the two principal groups walking past the beholder, one has just crossed the center of picture, but is deftly held in check by the trio masked by a sunshade, the background being peopled by promenaders, although two of them coming near being beheaded. The pictorial interest is enhanced by long shadows caused by the sun falling at just the right angle. Here, again, the artist showed excellent judgment. In all this motley assemblage, there is not a jarring note.

The tired vagrant overcome by sleep has been a favorite camera-subject of late. First, William T. Starr, then Paul Wierum and now, Holmes I. Mettee—I mean, these are the artistic interpreters. "Tired waiting for a Job," would have been another appropriate title for Mr. Mettee's highly successful achievement, page 61, in view of the many worthy but unsuccessful applicants for work, these days—but our artist evidently knew his man. Perhaps, the picture was made when men were called to the colors and many failed to respond. Whatever the merits of the case, the "Slacker" is an artistically creditable effort. As in the case of the "Promenade," by Mr. Rabe, solar shadows have been utilized here with obviously happy results. It is easy to see that with the sun near the meridian, or no sun at all, the subject would not have appealed to an artist of Mr. Mettee's perception. Despite the brilliant sunshine, the effect produced is soft and harmonious, without departing from the truth. Incidentally, the grotesque, broadly grinning shadow may be a source of merriment to the juvenile members

of the beholder's family. Data: September, 4 P.M.; good light; 4 x 5 Graflex; 9-inch Verito lens (sensible focal length); stop, F/5.6; 1/20 second exposure; Ortho-plate; amidol; 6 x 9 Bromide enlargement.

In his rainy-day scene, page 62, W. H. Zerbe has displayed a commendable degree of thematic novelty. To have obtained so truthfully exposed a plate in rainy weather and in the afternoon, speaks volumes to the credit of Mr. Zerbe's technical skill. Of course, in the circumstances, it was necessary to employ a large lens-aperture, even at the expense of sharp definition in the immediate foreground, and possible neglect to adjust the camera in order to preserve the vertical lines of the picture—unless the camera lacked the necessary adjustment—resulted in a slight, hardly perceptible variation from perpendicularity. The division of planes has been done admirably. Data: April, 3 P.M.; heavy rain and poor light; 8 1/4-inch B. & L. Ic Tessar; at F/5.6; 1/25 second; Isonon plate; M. Q.; 8 x 10 Bromide enlargement (salon print).

David W. Bonnar has given us a typical view on the pulsating Buffalo River, page 65. The substantial foreground, with grain-elevators extending along the left, holds and arrests the attention of the beholder, although he is not unmindful of the distant lake-craft at their piers, which the imagination will link to the suggested nearby activities. Thus we have a brief, but complete story of Buffalo's industrial and commercial importance conveyed by a well-conceived and ably executed picture by a photo-pictorialist. Nevertheless, it is a mystery why the artist left the irritating white spot near the left edge of his picture.

There are undoubtedly pictorial possibilities in Mr. Frittita's "Winding Stair,"—page 66. The subject, as pictured by Mr. Frittita, suggests independence of accepted art-principles, and I can imagine the "trimming-brigade" to be getting ready with suggestions to curtail the foreground and, possibly, the top of this highly interesting and not altogether unpleasing picture. Perhaps, the window, the brilliantly lighted section overhead, and the figure centrally posed against the arched niche are placed too closely together to correspond to any well-ordered and eminently artistic design. The two white globes may have been left in the picture to relieve the impenetrable blackness that marks the whole upper right corner of the view; but their obliteration—easy of accomplishment—might be viewed with approval by the critical beholder. Novelty of subjects we must have, if pictorial photography is to live and to advance; but this can be accomplished without violating the rules of pictorial composition. All the same, Mr. Frittita deserves commendation for trying to break away from conventionalism and for giving us at least an interesting and technically excellent study in chiaroscuro. Data: 5 x 7 Graphic; 9-inch Verito; at F/5.6; 3-time color-screen; Ortho-plate; pyro, in tray; 7 x 10 Artura Carbon Black.

The Venetian Water-Jar—as Mr. Kales suggests in his impression of the picture—might secrete a wealth of romance and adventure; but what the little boy finds to admire is not quite clear. To be perfectly frank, the figure appears somewhat *de trop*. The jar is quite able to assert its artistic importance un-

aided by any adjunct; and the setting, disregarding the boy, is happy and appropriate. Data: subject in America, joint work of two photographers; August; dull light; 3A Kodak; Zeiss lens; at F/8; from original ($3\frac{1}{4} \times 5\frac{1}{2}$) negative a contact transparency was made and from this an enlarged 8×10 paper negative; then a contact print, in the regular way, on P. M. C. No. 8.

Katherine Bingham's Riverview, page 68, serves its purpose as tail-piece, very appropriately, although it could easily have been trimmed, if deemed advisable, so that the distant shore-line need not divide the picture in two equal horizontal parts. Critical observers will please note that this possible fault is neutralized by a lowering of the shore with its reflections, at each side of the river. No data.

The harbor of Provincetown, Mass., the first haven of the pilgrim-ship "Mayflower," 1620 A.D., is sometimes choked with ice-floes, when the winter is particularly severe. One of these occasions has been pictured by John R. Smith of Provincetown by an interesting series of postcards, like the one on page 73. Data: February, noon; good light; $3\frac{1}{4} \times 5\frac{1}{2}$ Graflex; 7-inch Goerz lens; at F/16; 1/25 second; Eastman film; metol-hydro developer. Cyko paper. The ice left grounded by the ebb tide assumed many grotesque shapes. The floes were from twenty to thirty feet thick.

"A War-Widow," page 75, was hung in the recent London Salon, where it created favorable impression. In his review of the Salon pictures, in the *British Journal of Photography*, Mr. Tilney mentioned Mr. Fleckenstein's in terms of high praise, and deservedly so. The picture was also published, with a long and flattering analytical review, in *The Amateur Photographer and Photography* of November 20 last. There is a consistently sad expression in the woman's face—a look that haunts the beholder. Viewed from an artistic viewpoint, the picture has all the characteristics of Mr. Fleckenstein's professional skill and interpretive powers. The lighting is a notable feature of this triumph of studio-portraiture. Data: made in professional studio; side-light, afternoon sun coming in; short bulb-exposure; P. & S. Semi-Achromat; at F/6; Central Comet Plate; pyro; 8×10 print on Artura Carbon Black, E. Rough Buff.

When I referred in complimentary terms to the superior technical skill of Ernest H. Washburn, of the Y. M. C. U. Camera Club, Boston, I promised myself the pleasure to publish, as soon as practicable, a print of that artist's remarkable series of a Red Cross Parade. It appears on page 77. If any one can detect a single technical flaw in this interesting view, let him point it out. Data: May 18, 1918; 3.10 P.M.; sunlight; 5×7 Century Folding; 7-inch Ross-Zeiss Convertible, VIIa; at F/11; 1/50 second; Standard Orthicon; Eastman Tank Pyro Powders, standard time (20 minutes, 65° F.); contact Azo E, Hard Medium; M. Q. tubes; exposure made from second-story window on Tremont Street.

America's greatest musical composer, the late Edward MacDowell, was an ardent devotee of the camera. His love of picture-making was but another form of artistic expression, for he was a passionate lover of nature—the woods, in particular. I had the rare privilege to visit him several times in his lodge concealed in the woods near his farm, at Peterborough, N. H., where he composed many of his finest works, including those delightful idylls and sketches for the piano, "To a Wild Rose," "To a Water-Lily," and others. The present picture, page 78, breathes the spirit of the nature-lover, and evinces a sound know-

edge of art-principles and an eminent degree of technical ability. No data.

The friends of Herbert W. Gleason, the eminent photographer and lecturer, will be interested to know that he is now among the National Parks of the Yosemite—Mount Rainier, Glacier, Yellowstone, Sequoia and others, photographing their majestic beauties in winter-dress. Among the principal mountain-peaks which Mr. Gleason intends to explore and photograph especially, is Mount Tacoma (officially known as Mt. Rainier), pictured already many times by eminent camerists, including P. B. Schenck. Mr. Schenck is domiciled at Tacoma, Washington, not a long way from the famous peak, and can study advantageously its character and moods, so that it is fair to assume that his picture, page 81, is as typical as it is a superbly interpreted portrait. The radiant highlights and gradations are beautiful and spell supreme technical skill. Data: January, 1.30 P.M.; bright; 1/5 second; Century camera reconstructed, 5×7 ; $8\frac{1}{4}$ -inch Goerz Dagor lens; at F/16; B. & L. color-screen; Hammer D. C. Orthochromatic plate; pyro-soda developer; 11×14 enlargement on Industro.

It has been my pleasure to refer many times, and with sincere admiration, to the splendid artistry of F. J. Mortimer, which is familiar to every serious photographer throughout the world. A representative specimen of his work glorified September PHOTO-ERA, 1918. "We are ready now!" will not be forgotten. It enjoys historical as well as artistic importance. Associated with Mr. Mortimer's photographic mastery of the seas, is his "Freedom of the Seas," a picture of signal power, beauty and significance. Page 86. The huge, swirling, foaming masses were under the complete control of the master-camerist, for the result is a successful and impressive pictorial composition. No data.

Advanced Workers' Competition

THANKS to competitors' observance of our editorial suggestions regarding the interpretation of the subject, "Domestic Pets," the entries were eminently satisfactory. This is evident from the high artistic quality of the winning pictures. The Honorable Mention pictures, too, were excellent, and several of them have been halftoned with a view to being published during the current year.

Not content with winning the PHOTO-ERA prize-cup, not long ago, Paul Wierum set out to win another and—succeeded. Examining his successful print, on page 89, one is sure to admire the handsome creature which is convincingly a household pet. There is no frightened, anxious look about this cat, but rather a contented, self-satisfied air. The fluffy, silken character of the fur-coat of Mr. Tom Swan has been rendered with supreme skill, which, together with his aristocratic appearance and graceful attitude, makes for an artistic achievement of which Mr. Wierum may well be proud. Data: 10 A.M., in the shade; No. 1 special Kodak ($2\frac{1}{4} \times 3\frac{1}{4}$); Zeiss-Tessar 1c; stop, 4/5; attachment Eastman Portrait-Lens; $8\frac{1}{2} \times 11$ Cyko Buff enlargement.

Of unusual interest is Mr. Adley's group, on page 91. It is a little suggestive of Landseer's pictures, but independently original and expressive. Observers interested practically in animal-photography will undoubtedly wonder how the artist contrived to introduce the kitten, whose close proximity does not seem even to interest the huge St. Bernard. Combination-printing or double exposure would appear to be

(Continued on page 110)



ON THE GROUND-GLASS

WILFRED A. FRENCH



Humor at a Lantern-Lecture

Isn't it fortunate that there is still a humorous side to the serious illustrated lecture? The audience never fails to appreciate a "break" by the speaker, provided that it isn't the "limit." Sometimes, a "break" serves to "break" the possible monotony of the lecture, as happened to Fräulein —, who was admired, until the outbreak of the present war, for the remarkable beauty and accuracy of the coloring of her lantern-slides of art-subjects. Although a resident of this country for many years, and well informed on matters of art, she never acquired a mastery of the English language, either in diction or pronunciation. She spoke always with a decidedly Teutonic accent and in a typically Teutonic manner, for which reason, I suppose, she was addressed invariably as, "Fräulein."

One evening, when she was describing the art-treasures of Genoa, she projected a superbly colored slide of Guido Reni's St. Sebastian. She waxed enthusiastic and, pointing out the admirable flesh-tints of the martyred saint, exclaimed: "Look at his beautiful meat—the beautiful meat, I tell you!"

The Meat in the Cocoonut

SPEAKING of meat—with due regard for the rules of conversation—I am reminded of a review, written by a highly esteemed brother-publisher, of E. G. Lutz's little book, "Practical Art-Anatomy," in which the writer states, quite ingeniously, that "the photographer will find in this 'meaty' handbook just the information he needs."

Emperor William as Art-Connoisseur

It was in 1895 that I attended an international exhibition of paintings in Berlin. My companion was Carl Meisel, the art critic of the *Dresdener Neueste Nachrichten*. Among the pictures on this occasion which attracted considerable attention were several by an eminent French painter of historical subjects named de la Fosse, whose specialty was the French Revolution. Mr. Meisel was interested particularly in the scene where Louis XVI. was being conveyed to the guillotine. After gazing for some time at this impressive picture, I moved several feet away to study another work by the same artist, "The Celebration of the Goddess of Reason," and, after the lapse of about ten minutes, I rejoined my friend, who seemed a little agitated. Supposing that he had been affected by the realism of de la Fosse's pictures, I explained that I also was much impressed by the genius of the French artist. "That isn't it," he hastened to reply. And then he told me that, while admiring the resigned expression of the doomed king on his way to execution, and supposing that I was still at his side, he had remarked, "Well, what do you think of this picture?" And the answer came back, in a cold-blooded voice: "We shall see to it that such things do not happen in Germany."

Mr. Meisel looked up with astonishment to find that it was the German emperor, Wilhelm II, who was

speaking. It seems that, quietly and unnoticed, he had taken his place beside Mr. Meisel, and the latter naturally supposed that he was addressing his question to me. What was his astonishment to hear the response above-quoted!

Lantern-Slides at Motion-Picture Houses

My criticism of poorly colored lantern-slides, printed in the last issue, found sympathetic appreciation among many patrons of motion-picture theaters and, doubtless, will lead not only to direct complaints to the managers of such places of amusement, but to practical demonstrations by skilled amateurs of high-class coloring of topical lantern-slides.

The English press is outspoken with regard to the very inferior quality of lantern-slides exhibited in English theaters and music-halls, but particularly to the atrocious screen-portraits of the prominent personages identified with the present war. Indeed, and in most cases, these projected portraits are so bad as to be utterly unrecognizable, and it is only when a portrait is accompanied by a lettered title giving a clue to the identity of the original that any applause is evoked. English writers do not appear to have an exalted opinion of the artistic intelligence of theater-managers, who, however,—at least, in America,—are sufficiently alive to the profitable side of their business, as to provide what they think is desired or approved by their patrons. Of course—and more is the pity—many managers or owners of motion-picture theaters are devoid of artistic sense; but they should be made to recognize that it is poor business to provide screen-pictures or lantern-slides of such poor quality, as to mar an otherwise highclass and satisfactory motion-picture entertainment.

German Love of Beauty

To show that, in spite of the immense, irreparable damage the German soldiers have done to France—devastation and ruin—the German people are extremely fond of natural beauty, we reprint a request that appeared in the October edition of a prominent German photo-journal:

"The Beauty of a German Home. Our co-worker, Herr Rudolf Zimmermann, writes from the front that he would like to deliver an illustrated talk on the beauty of the German home, before a gathering of our soldiers, and to this end he solicits contributions of lantern-slides from our readers. We are glad to support this request and hope that these 'Liebesgaben' (gifts of love) will be forwarded to Herrn Zimmermann in large numbers. What is desired, particularly, is mood-pictures of landscapes and the like. Slides of standard size are requested. Address: Herrn Rud. Zimmermann (one-year volunteer), Forest-Administration, Bialowiec, Russia."

Zimmermann, Zimmermann? That name has a familiar ring. Wasn't he the German diplomat and propagandist who arranged that Mexico should acquire certain southwestern American states, and whose machinations came to a sudden end?



PHOTOGRAPHIC THRIFT



Whoever sends us a letter that we consider of practical photo-saving value, will receive from us a six-month subscription to PHOTO-ERA.

Practical Saving-Methods

EDITOR, PHOTO-ERA:

In these days when "Economy" is the watchword of the nation, we should strive to economize in our hobbies as well as in our daily life. Those who turn to the camera in their leisure-moments, as well as those who make it a means of earning the "daily bread," can "cut the cost" in various ways. The use of a "universal" developer, such as metol-hydro or ortol-hydro is a means.

Using the miniature camera, or kits in your plate-camera, and subsequent enlargement to the desired size, cuts the cost of the larger-size negative material. The use of test-strips in printing and enlarging, saves valuable paper.

The constant use of an exposure-meter, and keeping a record of exposures, so that one can check up mistakes, in the long run will save much otherwise-wasted film or plates.

Strive to make every exposure the beginning of a worth-while negative, and last but not least, the use of a fresh fixing-bath spells "PHOTO-THRIFT."

F. L. EVANS.

EDITOR OF THRIFT-COLUMN:—The only directions for photography which I received with my first camera were, "When you have used half a gross of plates, you will begin to get results." I had decided that that amount would have to be doubled, when a friend sent me a copy of a photographic magazine. I sent a year's subscription for it the next day. Later I received a copy of PHOTO-ERA and immediately subscribed for that. These magazines, with the purchase of the best three works on pictorial composition, have been my greatest Photo-Thrift.

All my $6\frac{1}{2} \times 8\frac{1}{2}$ plate holders are fitted with 5×7 kits; the 5×7 holders with 4×5 kits, so that I can use a 4×5 plate with my $6\frac{1}{2} \times 8\frac{1}{2}$ camera.

Carbon-strips from Kodak films are saved for transfer paper; artistic blank covers of catalogs for mounts and booklets, and PHOTO-ERA envelopes for containers and wrappers.

MYRA D. SCALES.

EDITOR PHOTO-ERA MAGAZINE:

Constructive criticism is undoubtedly a good thing; but the "trimming-brigade," as Mr. French calls it, is responsible for much waste of perfectly good paper. For instance, take Mr. Cline's picture, page 321, December PHOTO-ERA. It is suggested that one inch be trimmed from bottom of his picture. I admit and so must Mr. Cline, that this improves the picture wonderfully. Assuming that he has made a dozen prints of this attractive picture, there's a total loss of twenty-eight square inches trimmed from the reproduction and, consequently, a total loss of about forty-five square inches from the original prints, that is,

provided he trims them down to make them look well. There's a loss of enough good Azo paper to make three prints, postcard size. All of this Mr. Cline could have saved by composing his picture with less foreground.

What is true of Mr. Cline's picture is true, in a greater or less degree, of other pictures criticized ever since "Our Contributing Critics" came into being; for in that department nearly every picture is to be improved by trimming. This, my friends, shows the necessity of composing your pictures according to the valuable suggestions offered in PHOTO-ERA, from month to month.

GERTRUDE M. WILCOX.

EDITOR PHOTO-ERA MAGAZINE:

An amateur who develops but a few small prints at one time can use the M-Q developer, which comes in glass-tubes, most economically and conveniently by dissolving the contents of a tube in about one quarter the water specified and bottling in $\frac{1}{2}$ -oz. bottles—corks boiled in paraffin. To illustrate, dissolve one tube of Eastman's Elon Quinol developer in 2 ozs. water—the normal amount is 8 ozs.—and bottle in four $\frac{1}{2}$ -oz. bottles. To use, dilute contents of a bottle with $1\frac{1}{2}$ ozs. or $3\frac{1}{4}$ ozs. water, the latter amount being suitable for much work on many papers, such as Special Velox and Azo. For bromide paper $7\frac{1}{2}$ ozs. water may be used. This procedure eliminates spoiled developer, and saves paper by ensuring good tones through the use of fresh developer.

CLARENCE A. PIERCE.

EDITOR PHOTO-ERA MAGAZINE:

The user of a roll-film camera is more apt to waste than the user of a plate-camera, and I would like to coin the following slogan for all who use the former type of camera: "WATCH THE LAST FILM ON THE ROLL." How many times do you hear "I'll just shoot this one and finish the roll, in order to get the film developed and see the result." There must be hundreds of films wasted for this reason alone, and I would therefore suggest that the last film should have just as much care as the first, and not be should in order to complete the roll.

Again, do not make pictures unless they have pictorial interest. By this I mean do not snap at anything. I was shown eighteen pictures recently of a parade, all made from the same standpoint on the same day. They were almost as though printed from one film, the subject being virtually the same, right through.

The man that has to compose his picture on a ground-glass is naturally far more careful, and does not expose unless he is reasonably sure to obtain a picture; but not so the user of the roll-film camera—it is too easy to snap the shutter. Let some of those who use roll-films carry a 5×7 plate-camera on a photographic trip, and I venture to say that they will agree with what I say, especially as kits can be used and 4×5 plates employed for economy, and the larger size used only when necessity demands.

J. V. DUNHAM.



ANSWERS TO QUERIES



H. S.—There is no practical method of making photographs direct on paper in the camera, provided you mean positives. Of course rapid bromide paper, which has an emulsion virtually like that of a slow dryplate, may be exposed in the place of a plate or film in the camera, but this yields a negative upon development. This can be transformed to a positive by reversal, but it is a bothersome process, and good results are not always assured. Also the image would then be reversed left for right. Of course the paper negative could be rendered transparent, and printed from like a glass or film negative.

Astigmatism is a defect in a lens by which it is prevented from rendering vertical and horizontal lines with equal degrees of sharpness. It is more noticeable towards the edges of the field, the center being quite free of it. A **stigmatic lens** is a lens free of astigmatism. In addition, it is free of chromatic and spherical aberration.

A. P. W.—With regard to F/7.5 and F/3.7 anastigmat lenses, it has been our experience that these cheaper lenses, as supplied for Kodaks, equal the definition of higher priced lenses. However, as you say, they are not as fast, and in addition we would call your attention to the fact that many of them do not include as large an angle nor could they be used on a plate larger than that for which they are listed. Also, should one of these lenses be used on another type of camera the chances are that the results would not be as satisfactory.

These cheaper grade anastigmat lenses are built for a definite purpose. They are similar to the lenses that are put into the No. 2 Brownie cameras. We are all obliged to admit that these cameras under favorable conditions do remarkable work. This is due mainly to the fact that the lenses fitted to these cameras are made especially for the purpose. If they are removed or used elsewhere, in another equipment, they do not give such good results.

There is no question, but that the famous anastigmats, such as Carl Zeiss, Goerz, Voigtlander, Cooke, Ross and others are the best lenses manufactured. Roughly, one might say, that most of us would prefer to ride in a "twin six" Packard, but it does not follow that the owner of a Ford is not just as able to reach a given point and enjoy the scenery as the owner of the Packard. However, the owner of the Packard has advantages in efficiency, comfort, speed, etc., that the owner of the Ford does not possess.

Although this is a rough idea, we hope that you get the point. It is not necessary to obtain a fast lens in order to obtain results. On the contrary, the finest definition is obtained with lenses of a speed no greater than F/7.5, F/7.7, F/6.3 and F/6.8. You will notice that the world-famous Protar lenses, than which there are no finer made, are not fast lenses.

To sum up the entire matter, we would suggest that if you can afford to purchase a camera equipped with the Zeiss Tessar F/6.3, we would advise you to do so. Should you ever care to dispose of it, you would receive more for it; and, likewise, should you wish to use the lens for any other purpose, it would serve you to better advantage. However, if you cannot afford

to spend so much money, the lower-priced anastigmats used, as indicated in the instruction-book, for the purpose intended, will give you excellent and very satisfactory results. We believe that the difference in definition would be so slight that the eye would be unable to detect it, and in fact, we do not see why there should be any difference at all.

A. D. E.—Sometimes an enamel-tray will cause trouble, when it has gotten chipped or has the enamel worn off in spots. The exposed iron coming in contact with the developing-solutions may stain or otherwise injure the prints or negatives. Such trays should be recoated with bath-tub enamel, the broken places first being filled with litharge mixed to a paste with glycerine and plaster of Paris.

F. A. C.—With regard to the violet panes which correspondents have noticed in some of the old residences of Boston and other Eastern cities, I will give the explanation of Mr. Ralph Cram, the eminent Boston architect:

"In the year 1800, or at all events when this particular group of houses was being built, a ship-load of glass came over from England, which was perfectly clear when it arrived, but, shortly after it was set in the windows, some chemical action took place which turned the glass purple. It is supposed that some chemical or other became mixed with the materials when the glass was manufactured, and that under the influence of the sun the glass slowly changed its color.

"Without knowing the origin of this purple color in the window-panes, many persons introduced such windows in their homes about 1876, and this old violet glass became somewhat of a vogue. It must be remembered that there is a difference in cause and sentiment regarding this old violet glass as now seen in some of these old private residences."

E. S.—Transparencies are not difficult to make if one is at all accustomed to photographic processes. They are simply prints on glass, and made after the same manner. It is best to use a rather slow plate, as it is easier to manipulate and gives good contrast. Place your negative and plate film to film, in a printing-frame, and expose to artificial light, at a distance of three or four feet, for a few seconds (with 16 C. P. electric light, and an average negative, possibly five to ten seconds), then develop in a good contrast developer such as is given with the plate coated on ground-glass. If these are used, all that is necessary to show them is a plain glass over the face for protection when put in the binding-frame. If the plate is clear glass, it should be bound with a ground-glass.

H. B.—An easy way to title negatives or place any inscription on a print which can be shown in white letters, is this: Take a piece of Kodaloid, which is a very thin transparent celluloid, and holding it with the plate toward the light, locate the place where you wish the writing to appear. Then take the Kodaloid, and on the side which will come next the plate do your printing or writing. When the two are fastened together at the edges, you have a good protection for your negative, and the title will print correctly. A good medium is ink with lamp-black dusted in.



EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions
and Conventions are solicited for publication



Enemy-Goods

A VERY serious problem before the British photographic trade calls for immediate attention. The feeling of most of our fellow countrymen is unquestionably hostile to German products. It is unlikely that the terms of peace will exclude them officially, and it will rest with the British user to do so unofficially by abstaining from purchasing them. Some of these products are sufficiently well recognized to label themselves as to their country of origin; but the great bulk of the German photographic apparatus which was on the market here before the war masqueraded as English, and bore the names of British firms, who merely imported it and handed it on to the dealers. Then again, there are products which give no suggestion of their origin. When we buy a pound of sulphite or a dozen mounts, we are generally quite in the dark as to their source, and the same applies to the ingredients of a made-up solution, or of some fabricated article. What guarantee is a photographer to have in the future against such products? Given a determination not to buy enemy goods, if he can help it, how is he to be certain that a camera or a lens, a packet of chemicals or a darkroom-lamp, does not hail from across the Rhine? That is the problem which the British industry collectively has to solve, and we trust, it is not neglecting it. We feel that we can rely upon it to provide the home-products in that quality which the word "British" has come to connote, and at reasonable prices; but how are we to recognize them?

The Amateur Photographer.

This is noble, patriotic advice, indeed. But as our esteemed overseas cotemporary is undoubtedly sincere in his objection to German-made goods, we assume that he is equally opposed to the present and future use, by his countrymen, of German-made cameras, lenses, microscopes, binoculars and other optical instruments—products purchased or acquired by them before the beginning of the war.—[EDITOR.]

Photographic Restrictions Rescinded With Regard to U.S. Camps

THROUGH the courtesy of Mr. L. B. Jones, Advertising Manager of the Eastman Kodak Company, we are able to give the readers of PHOTO-ERA the latest governmental rulings on picture making in U.S. Camps. The new regulations and amendments follow:

"You are now informed that instructions have been given to rescind paragraphs 9 and 10 of Special Regulations No. 102, and to amend Paragraph 8 to read as follows:

"'Ordinarily, photographs of military subjects concerning which no secrecy is required may be taken freely without restrictions other than such as may be imposed by the Commanding Officers at camps, ports, fortifications, armories, arsenals, factories, and other places connected with the national defense, in the interests of discipline and good order and with due avoidance of unfair discrimination. Nov. 30, 1918.'"

"8. The object of these regulations is to remove all unnecessary restrictions and grant the maximum of

practical freedom to citizens in photographing matters of legitimate public or private interest in so far as is compatible with discipline and good order. Ordinary photographs of military subjects, concerning which no secrecy is requisite, may be taken freely about open camps without restrictions other than such as may be imposed by the commanding officer, having due regard to the avoidance of unfair discrimination. The term 'open camps' is understood to include all divisional camps, replacement camps and officers' training schools. In these places the intelligence officer shall have charge, under the direction of one commanding officer, of such details of registration, limitation, and inspection as may be found necessary for the proper control of civilian photographers within the reservation. The freedom to photograph in open camps may be revoked or limited at any time by the commanding officer when exigencies arise demanding secrecy.

"9. None but official photographers of the Signal Corps, or of other recognized bureau of the War Department or of the Navy, or of the Committee on Public Information, properly identified by a permit secured from the Director, Military Intelligence Division, shall be allowed to make photographs, moving pictures, drawings, or pictorial records of movements of troops, experiments in matériel, experiments in intrenchments or experiments in formations, fortifications, armories, arsenals, or factories connected with the national defense, except as hereinafter provided. The taking of photographs from kites, aeroplanes, or balloons, and the taking of photographs at ports of embarkation and at camps connected with such ports, and of troops aboard transports, are forbidden, except to commissioned officers with special permits from the Director, Military Intelligence Division.

"10. Progress pictures for record purposes only may be made within the prohibited reservations hereinabove referred to by properly accredited civilian or other photographers having permits from the Director of Military Intelligence, provided, however, that prints of all pictures be submitted in triplicate to the Director of Military Intelligence. Under no circumstances may progress pictures be used for advertising, exploitation, or commercial exhibition."

An Attractive Calendar by W. S. Davis

AMONG the numerous artistic and home-made calendars sent, with greetings and good wishes, to the Publisher, was one by the eminently versatile W. S. Davis. This souvenir for the year 1919 is a 4 x 5 color-print of a modern American battleship firing a broadside—at the enemy or in salute—the print being mounted on a large pebbled card, with a suitable calendar card attached below. This attractive color-print is one of a set of twelve published by the Gerlach-Barklow Company, of Joliet, Illinois, from a series of oil-paintings made by Mr. Davis, in 1917, to illustrate various periods of modern naval warfare. This firm publishes the fac-simile reproductions as a set of monthly calendars and supplied Mr. Davis with a number of proofs for his own use. Any one interested may apply to the above-named firm.

Personal Loss to Mr. A. H. Beardsley

It is with feelings of deep regret and sorrow that the Publisher records the death of Mrs. A. H. Beardsley, wife of our Assistant-Editor, December 18, 1918. Death was due to influenza which developed subsequently into double pneumonia. In view of the fact that Mr. Beardsley himself was convalescing from an illness of several weeks and then was called upon to bear the additional burden of loss and sorrow, the office-routine was necessarily interrupted by his long absence from his desk. The Publisher feels confident that the friends and readers of PHOTO-ERA will bear with him in the circumstances, until the office-activities are once more working smoothly.

An Open Letter from an Aggrieved Professional Photographer

EDITOR OF PHOTO-ERA MAGAZINE:

I enclose copy of a letter addressed to Secretary Columbus, which I think will explain itself. It does not seem right to me that the officers of the National Association should be allowed to exploit the visitors at local conventions in this manner, or to injure the prestige of the local association by their trickery. If they are selling but four-months membership and four issues of the *Association News*, they should say so and charge accordingly, and not sell a full year's and then deliver the above amount. It is a disappointment to me to find that an association of photographers will descend to such practices.

Yours very truly,

F. D. BURT.

PITTSFIELD, MASS., Jan. 3, 1919.

MR. CHAS. J. COLUMBUS, Sec'y,
Photographers' Association of America,
WASHINGTON, D.C.

Dear Sir:

In spite of the "strong-arm" methods adopted for your membership campaign at the Springfield Convention in August, I was very glad to enroll in the National Association as I am a firm believer in the spirit and advantages of co-operation. I therefore sent you in all good faith my cheque for two dollars and twenty-five cents, which, I was informed, covered dues and subscription to your Journal for one year. In return, I received a membership-ticket good until January 1, 1919 (four months), and have received to date four issues of your Journal. When I wrote, calling your attention to this matter, I received a reply breathing of patriotism, brotherly love and good fellowship, and appealing to me to believe that I was getting all to which I was entitled and not to quibble over the few cents involved, and I therefore let the matter rest.

I have now received from you another bill for dues for 1919, which I take great pleasure in returning to you by the first mail with no intention to invest more money in you or your organization. I assure you that I am always willing to be cheerfully stung the first time, but only once do I bite on each individual species of gold brick. Neither do I care to belong to any organization which is not founded upon a principle of honesty and fair dealing, and you cannot remove my name from your rolls any too quickly to suit me. I had long felt that I should be a member of the National Association, it needed only the asking to make me gladly enroll, and I am equally glad to get out now that its character has been disclosed to me.

I am sending copies of this letter to President Painting, of The New England Association; to *American Photography* and to PHOTO-ERA, and I sincerely trust that they will print it with my name signed in full.

Yours very truly,

F. D. BURT.

PITTSFIELD, MASS., Jan. 3, 1919.

The Chickering Studios

THE well-known Chickering Studios, West Street, Boston, Mass.—the founder and proprietor, Elmer Chickering, having died several years ago—is now owned and operated by George H. Hastings and Orrin Chauplain. While Mr. Chauplain continues to conduct his own busy establishment, at 161 Tremont Street, Mr. Hastings, personally, manages the Chickering Studio, which is now enjoying a large and profitable patronage.

Pittsburgh Convention, March 18-19-20, 1919

CLASSIFICATION OF AWARDS

First Grand Prize—Open to all photographers in U. S. and Canada. Gold Medal. Exhibit to consist of three portraits, which must be made from 8 x 10 plates, or larger. \$2 must accompany entry, which will pay for membership in organization for one year.

Class A—Open to all photographers in the Middle Atlantic States. Three portraits to constitute exhibit, the three having highest rating. First prize, Gold Medal; second prize, Silver Medal. All prints to be from 8 x 10 plates or larger.

Class B—Open to photographers in cities of 40 to 100,000 inhabitants in the M. A. S. jurisdiction. First prize, Silver Medal; second prize, Bronze. Portraits to be from 8 x 10 plates.

Class C—Open to photographers in cities of 15 to 40,000 inhabitants in M. A. S. jurisdiction. First prize, Silver Medal; second prize, Bronze. 8 x 10 plates or under.

Class D—Open to photographers in cities under 15,000 inhabitants. First prize, Silver Medal; second prize, Bronze.

Class E—Home-Portraiture, for best three portraits not made in a studio. First prize, Gold Medal; second prize, Silver.

Commercial Photography—Open to all photographers in M. A. S. jurisdiction for the best three pictures of commercial subjects. Contact-prints. First prize, Silver Medal; second prize, Bronze.

The Abel's Cup—A special prize offered by *Abel's Photographic Weekly*, for the two best portraits, not less than 5 x 8 inches, made entirely by an employee working in any studio in the Middle Atlantic States jurisdiction. No entry-fee.

Bulletin of Photography Prize—\$10 in gold for the best picture exhibited by a member of the P. A. of M. A. S. No strings tied to the award. Picture may be entered in the classes or as an exhibit.

RULES GOVERNING AWARDS

Portraits may be framed or unframed.

Three portraits shall constitute an exhibit, except special prizes; awards to be based on the highest rating of the three portraits. No names or identification marks to be on face of portraits. Enclose card or name and address with exhibit, specifying the class in

which they are entered. This will be placed with your exhibit after they are judged and hung.

A fee of two dollars must accompany all exhibits for the Grand Prize, which carries with it a membership in the organization for one year.

Exhibitors in all other classes must be in good standing in the Association, excepting Special Classes.

Getting Definition

When things have settled down a little more, and the British lens-makers are able to transfer their machinery and workmen from munitions of war to munitions of peace, there ought to be a great boom in the lens-industry. It is the ambition of every photographer, and a very legitimate ambition, to be able to use a high-class instrument, and many entertain the belief that it will bring about a marked improvement in their work.

However, there is no rose without its thorn, and the thorn in this case is a big one. To use a lens of the best kind, so as to take full advantage of its powers, calls for something more than the mere attaching of the lens to the camera-front. We have to know how to use it.

When an amateur gets rid of some cheap slow lens and substitutes for it a high-grade anastigmat, he sometimes finds to his amazement that his work instead of being better is actually worse than before. He overlooks the fact that his new instrument works at a much larger aperture, and that it has, therefore, much less depth of focus than its predecessor.

For certain subjects this lack of depth is a valuable quality in itself. It enables us to focus on the main feature of the picture, and to allow the rest to be diffused and softened. But there are other subjects in which it may be quite the reverse; and in some cases we may even find that we cannot get the degree of sharpness which we require, until we have stopped down to as small an aperture as that of the old lens. This does not mean to suggest that the newer instrument is no better, far from it. We shall get, on the whole, a much better character of definition, and get it generally with a much larger stop.

We must not lose sight of the fact, also, that a high-class lens requires what is, in some respects at all events, a high-class camera. The lens forms a critically sharp image in one plane only, which plane is at right angles to the axis of the lens. (It is understood that we are considering a test-subject, such as a flat surface on which is fine detail, as obtains, for instance, in copying.) If we are to profit by the possession of such a lens, we must be able to count upon the sensitive surface of the plate or film occupying that plane exactly; and with a ramshackle camera this cannot be done.

For example, the front of a great many cameras cannot be rigidly fixed at right angles to the baseboard. If we hold the top of the front and the top of the back in the two hands, it will be noticed that there is a perceptible play between them, in such a case. Any play in the front will allow it either to be pulled back out of the vertical by the tension of the bellows, or pulled forward by the weight of the lens and shutter. The effect is equally injurious to the definition, whichever it is. It results in the focal plane being tilted either forward or backwards, as the case may be, whereas the back holding the plate or film remains at right angles to the baseboard. In such a case, the image may be sharp along a line across the center of the plate, and blurred along the top and bottom. Or the top may be sharp and the

bottom blurred, or *vice versa*, according to the direction in which the front is tilted.

It may be asked if such a defect in the camera is not equally harmful, whatever lens may be used, but the reply is that it is not. Less perfect lenses, for one thing, will not be used at as large an aperture. Instead of working at F/6 or F/6.5, they may have to be used at F/8 or F/11. Consequently when we are using them at their best we have more depth of focus than when we are using the high-class anastigmat at its best, and the effect of this greater depth of focus is to nullify more or less the blurring caused by the defective camera-front.

When we referred to "high-class cameras" being necessary for use with high-class lenses, we did not mean that the camera for such a lens is necessarily expensive. It must be good. Such excellence can be obtained either by costly workmanship or by simplicity of design. To ensure the front of the camera being parallel with the back, calls for thoroughly good workmanship in a folding-camera, but in a box-form camera it can be obtained in the simplest manner. If the box-type of instrument is true when it is made, and with machine-construction this is easily obtained, it will remain true to the end. The substantial connection between the back and the front allows the relationship between the sensitive surface and the focal plane to be maintained in a manner which is not got so easily when the camera is made to fold up.

The folding-camera must not only be properly made to start with, it must be handled carefully, or the front will soon be strained and made loose, and when once it has any play it is a very difficult matter indeed to put it right again.

Some cameras are fitted with a useful movement known as a swing-front. It is very important in such apparatus that the photographer shall have some mark by which he can tell at a glance that the front is in the parallel position—parallel with the back, that is—and not swung. For the same reason, the swing-back should have a similar indicator. Many modern cameras have catches in the side struts for this purpose.

The very slight degree of depth of focus in high-class lenses calls for accuracy in another respect. The focal plane of such lenses is, to all intents and purposes, flat, and the sensitive surface to receive the image must be flat also. With glass-plates there is no trouble on this score, but when we come to deal with celluloid-film the case is different. In small sizes the tension, the backing of black paper, and the grooves or rebates of the camera keep it reasonably flat, and no trouble is experienced in getting an image that is uniformly sharp all over, but when we come to work such sizes as 4 x 5 or larger, it becomes increasingly difficult to keep the film flat enough to be used effectively with the most rapid lenses. We have seen negatives in which there has been a band of blur running across the image, which showed in an unmistakable manner that the film had had a wave or buckle in it along that band at the time of exposure.

For the same reason, the focusing must be accurately done with these lenses, and the longer the focus of the lens, the less will be its depth, and the greater the need for care. We soon reach a size of picture beyond which it is useless to attempt hand-camera work with a very rapid lens, because of its lack of depth, but precisely where the line should be drawn will depend to some extent upon the skill of the photographer. The fact is a very strong point in favor of the tiny camera—since with it, most of the difficulties originating in lack of depth of focus are avoided.

W. D., in *The Amateur Photographer*.



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

THE AMERICAN ANNUAL OF PHOTOGRAPHY. 1919. Volume XXXIII. Edited by Percy Y. Howe. With copious illustrations in black and tint. Price, paper, \$1.25; cloth, \$1.75. New York: George Murphy, Inc., 57 E. Ninth Street, sole sales-agent.

There is an ever-increasing interest in this justly popular American photographic annual. Although our participation in the war has resulted in typographical and economic difficulties for every publisher, we can congratulate the publishers of the annual for the general excellence of the current issue, in the circumstances. The contents is representative of American skill and taste in pictorial, nature and genre-photography. Among the authors of practical and interesting articles are Paul L. Anderson, A. H. Beardsley, John Boyd, Sigismund Blumann, C. H. Claudy, William S. Davis, Arthur H. Farrow, Thomas Edward Hall-dorsen, George D. Jopson, Dr. T. W. Kilmer, John Lewisohn, A. Lockett, Percy Neymann, Ph.D., Harry G. Phister, Henry F. Raess, George Steele Seymour, Bayard Breese Snowden, Karl Tausig, Stillman Taylor, and William H. Zerbe.

Some unusually creditable work has been done by professionals, among whom may be mentioned William S. Davis, Rudolf Eickemeyer, Elliott Studio, Louis Fleckenstein, Gill & Son, Jared A. Gardner, Belle Johnson, W. B. Poynter, Jane Reece, Ira D. Schwarz, Kate Smith and William H. Zerbe.

The amateurs also have contributed eminently superior work. Of special interest are pictures by Louis Astrella, Edgar A. Cohen, Arthur Daring, Louis A. Dyar, Theodore Eitel, Louis Goetz, A. B. Hargett, G. W. Harting, Blanche C. Hungerford, Dr. T. W. Kilmer, William Ludlum, James A. Paton, W. H. Porterfield, W. H. Rabe, George Steele Seymour, Kenneth D. Smith, A. M. Sornberger, M.D., Stephen H. Willard and Harry D. Willard.

A list of up-to-date tables of weights and measures, plate-speeds, solubilities of chemicals used in photography, distances in enlarging and reducing, hyperfocal distances, systems of stops, length of studio required for lenses of different foci and other valuable data. In addition, there is a list of American photographic societies, their membership, officers and dates of meetings.

LENS-WORK FOR AMATEURS. By H. Orford; with numerous illustrations. Price, cloth, \$1.35. Bath, New York and Melbourne: Sir Isaac Pitman and Sons, Ltd.

This little book deals with the *manufacture* of photographic lenses. By means of numerous carefully drawn diagrams, it introduces the photographer to the many delicate operations needed to produce the modern objective. The explanations are given in such simple language that any amateur who has access to a lathe and a slight knowledge of turning, may make the required tools. Every chapter is interesting and

profitable reading. Perhaps, the greatest value of this book to the average camerist lies in the fact that it arouses an appreciation of the lens-maker's art. Some of the chapter-headings are: A Lens Defined; Tools Used by Lens-Workers; Different Systems of Lenses; Making Patterns; The Aperture of Diaphragms; Methods of Mounting Lenses; Testing Different Lens-Systems; Testing the Aperture of Lenses, and many other equally interesting subjects. It is eminently worth the time of every camerist to read this little volume thoroughly, for he will use his lens to better advantage and with greater pleasure.

The Best Book on Retouching

MOST of the books that treat on retouching and working on negatives, with the intention to improve them are very incomplete and unsatisfactory. Everybody interested has been looking for the ideal book on this important subject, and, considering the opinions expressed by expert professional photographers, PHOTO-ERA takes pleasure in recommending, to professionals as well as to amateurs, the best book on this subject printed in the English language. We refer to the work, "A Complete Treatise on Artistic Retouching, Modeling and Etching," by Clara Weisman—an expert retoucher and, for many years the head of the retouching-department of one of the largest photographic establishments in this country. The author is by training, experience and temperament well-fitted to treat so difficult a subject as retouching; and admirably, indeed, has she performed her task. Not only does she set forth, at once clear and concise, the principles of sane retouching and their application, but how to avoid the common error of spoiling a likeness and its anatomical aspect by senseless manipulations. She demonstrates the importance of truth in modeling the human face, and illustrates by means of examples the danger of falsifying the results of the lens. On the other hand, there are numerous delightful illustrations of genre and portrait-photography, exemplifying the best principles of the retouching-art which make for the artistic blending of truth and ideality. The author also illustrates how successfully an expression of gloom may be converted into one of happiness, and how other modifications on the negative may be effected by skilful use of pencil and etching-knife, urging only such technical manipulations as may be successfully practised by the retoucher of average ability, her one thought being the attainment of supremely artistic results by easy and sensible methods.

Although the author is a practical artist and a recognized authority in her specialty, she supports her advice with references to well-known art-principles, thus imparting to her words greater value and force. The closing chapter, "Style and Individuality," reveals the author's familiarity with the works of the great painters, and worthily terminates a volume that should be in the hands of every practical worker—professional or amateur. We accord it our heartiest endorsement.

The book is fully illustrated and only a few copies are left. It was published at \$2.50, but will soon be out of print. Copies will be sent by the publisher of PHOTO-ERA on receipt of \$2.00 each.

Camera versus Baby

"How did you get rid of that bore Jones and his prattle about his new baby?"

"I introduced him to Smith who has just got a new Cycle Graphic."



LONDON LETTER

CARINE AND WILL CADBY



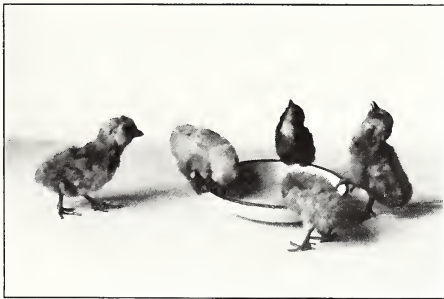
EVEN the writers of a photographic letter may be allowed to record the fact that since our last communication war has stopped. This is surely the greatest world-event since war was declared. We, in this country—even the non-combatants—for four and a quarter years, have been very near the hub of events; our every-day life has been altered radically by the war. We have done all sorts of work of which we should have thought ourselves incapable before August, 1914. We, at least in this county of Kent, have become accustomed to air-raids, "dud" shells, shrapnel, and search-lights; we even knew the particular hum of a "Gotha;" and it is a little difficult to realize, at present, that all these things belong to the past, and that life will solidify and settle, certainly not as it was before, but into new channels, for we have all learned many lessons from the war. And now that the guns are silent, we may perhaps be excused if we spare a few lines for the unphotographic pleasure of congratulating—yes, and thanking our readers' country for the able and decisive part the United States has played, and just when everything seemed to hang in the balance.

One immediate result of the cessation of hostilities has been the doubling of the bulk of the daily papers. The penny variety has blossomed out to eight pages, the actual size of its pre-war halfpenny-days, and the second papers are filled with advertisements offering for sale all sorts of commodities that were unobtainable a week or two back, their possessors evidently, hoping to snatch war-time profits from goods they have kept in reserve. Conspicuous among these are offers of tons of high-grade paper. This, surely, affects photographic printing, even if the particular varieties offered are not of photographic quality, and we may hope that an end has come to the continual and, no doubt, necessary rises in photographic materials. Another immediate result has been the revocation of a considerable number of regulations under the Defence-of-the-Royal-Act, that much-bemoaned *Dora*, dubbed feminine because of the initials. It is no longer an offense to sketch or photograph on the coast or elsewhere, and any necessary control in this direction will be exercised under the Official-Secrets Act of 1911. Thus, photographers have obtained already a big slice of freedom, and the result is likely to be a large crop of seaport views in

next year's exhibitions. Indeed, we may expect to see one of the much-talked-of Q Mystery ships as the *raison d'être* of some pictorial composition! We are also informed that arrangements are being made to withdraw all the restrictions of the Press Censorship, except those, mostly military, which it is considered necessary to preserve until the conclusion of peace. It is not clear, at present, whether manuscripts going to America are yet free, and, to prevent any mistake, this letter will be forwarded as usual, via the Chief Postal Censor, who, we must acknowledge, has at all times courteously facilitated the dispatch of our London Letter to PHOTO-ERA.

A short time ago, we were able to wring a little amusement out of the comparison of a visit we had just

paid to a big London photographic dealer with the conditions that had prevailed before the war. The changes brought about by the four years' struggle came gradually. They were all sad, depressing and limiting; but at least we were broken in by degrees. It was the same with this big business. The changes had been gradual, one employee after another had dropped away, and it was not until we had recalled a mental photograph of it in pre-war days that we realized the contrast.



FROM "PUPPIES AND KITTENS"

BY THE CADBYS

In those halcyon days one of the seven or eight alert assistants would spring to meet us as we entered. Photography was in the atmosphere of the place; photographic terms were heard all around. There was nothing about photography not known here, nor could any photographer hope to sneak by unrecognized. We were respectfully asked about our work and told of the latest things on the market. Sometimes advice was sought, and compliments cleverly conveyed, so that we left the place feeling that we were rather important people.

On our last visit, when we tried to buy a photographic article, we found only three persons in the shop—a manager of non-combatant age, and two rather languid ladies. One of them roused herself from her detachment to tell us that what we wanted was not in stock, and the other's reverie remained undisturbed. With such a reception, we felt our incognito assured, therefore we tried to chat with the manager.

He told us that no cameras were being made at present, and, when we consulted him about photographic shows in London, he apologized for not being

able to tell us of any; then, noticing a leaflet on the counter, he paused, and we all looked at it together. It was an advertisement of the last days of the R.P.S. exhibition. "Oh," we said, "what kind of show is this?" He was rather at a loss, till his eye wandered down the page and he remarked more cheerfully, "There is nothing to pay to go in." After that we gave up trying to talk "shop." "Well, anyhow," we said, as we walked away, "no one can accuse them of being obsessed with photography." Probably in six months' time—for alas! we are not as clever in swinging back into peace-conditions as quickly as you are across the Atlantic—the place will be humming once more with photographic talk, and, as in old days, will seem one of the hubs of photographic activity.

"Puppies and Kittens" and Other Stories, the third book for little children, written by one, and illustrated by the other, of the present writers, has just been published (Mills & Boon, 2/6 net). It contains four stories and there are thirty-nine full-page reproductions of original photographs as illustrations. We have often contended, in these letters, that children show far more interest in photographic illustrations than in the most beautiful of drawings. This may be through some defect in the young people, probably their partly developed intelligence is better able to appreciate bald transcripts from Nature than the illustration that is the outcome of a black-and-white artist's imagination. Or, perhaps, their all-absorbing wish that the tale shall be true causes them to lean towards, and like, the photographic interpretation—as most innocent persons of even mature years think that the camera cannot lie. But whatever the cause, we know that with most normal children this statement holds good, and the success of these little books has confirmed our conviction; for large reprints of both "The Dolls' Day" and "Finding a Fairy" have been issued. In the new book the same ideas have been carried out. The stories are written for children, and care has been taken that no word is used that a child learning to read cannot understand. The photographs are of kittens, puppies, chickens and colwobs, all made in their normal every-day life, even to the faithful detail of a spider's preoccupation with a trespassing fly.

Arrangement of Allied Flags

AMONG our new subscribers is a gentleman from Toledo, Ohio, who, like PHOTO-ERA, feels that during this war we should not allow our own importance to become too assertive, lest it obscure our sense of chivalry towards the Allied nations, France in particular. The subscriber's communication was enclosed in an envelope, bearing on its face a cluster of four Allied flags, admirably printed in the true colors. The national emblems, from left to right and in the order named, are Britain, Cuba, France, and America arranged so that none is in the center. The first two flags are represented as flying from their staffs towards the left and the other two towards the right—surely a happy arrangement.

Upon inquiry, PHOTO-ERA learned that the credit for this beautiful group of Allied flags is due to the patriotic enterprise of the American Type-Founders Company who designed and cast it for general use by the printing-trade. It has been used extensively by patriotic business-firms in regular correspondence.



A MERE copier of nature can never produce anything great, can never raise and enlarge the conceptions or warm the heart of the spectator.—JOSHUA REYNOLDS.

Our Illustrations

(Continued from page 101)

out of the question, when one examines the direction and depth of the shadows cast by each individual subject. The lighting and grouping merit the highest praise, and one is inclined to regret the presence of insistently horizontal lines which interfere with a complete enjoyment of one of the most meritorious animal-pictures that has ever graced these pages. Data: July, 1918; about 2 P.M.; bright sun; 67 $\frac{1}{2}$ inch Bausch & Lomb R.R. lens; stop, F/16; 1/25 second; 4 x 5 Seed 27; M. Q.; 7 $\frac{1}{2}$ x 9 $\frac{1}{2}$ enlargement on P. M. C. No. 8, double-weight rough.

The third picture of this interesting prize-series, page 92, makes an irresistible appeal by the happy combination of a child with its pet. It is hard to see how the grouping could be improved. The mutual interest is delightfully expressed—naturally, ingenuously. Though the lower part of a screen-door is somewhat strongly in evidence, it does not seriously mar our pleasurable interest in the picture. No doubt, a little more space at the left, to give the boy more elbow-room—had the camera been directed a trifle more to the left—would improve the placement of the group. Data: October, 1918; 11 A.M.; fair light; 4 x 5 Premo; 9 $\frac{1}{2}$ -inch Goerz Dagor; at F/6.8; 1/12 second; 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ Seed Graflex plate; pyro-soda; 5 $\frac{1}{2}$ x 7 $\frac{1}{2}$ enlargement on Artura Carbon Black.

The Beginners' Competition

IN considering the exquisite child-portrait, page 95, I am reminded of that superb series of pictorial photographs, by Japanese artists, published and reviewed in the issue of August, 1917. That was, indeed, a wonderfully beautiful exemplification of Japanese photo-pictorial art, in which Mr. Kobayashi's picture—though supremely successful in the Beginners' (?) class—deserves to have an honored place. It seems to possess all the qualities that distinguish an eminently artistic achievement. Whether one judges the portrait from the viewpoint of interpretation, composition or execution, he will be willing to concede the manifestation of supreme talent. In any event, the picture serves as an example of mastery in lighting, posing and expression not only to students in portraiture, but to advanced workers and professional portraitists. It will repay careful and thorough study.

This is the first time that Mr. Kobayashi has participated in the Beginners' Competition. It is also his last, for, having won the first prize, according to the rules, he automatically ceases his interest in that department and becomes eligible in the Advanced Workers' Competition where, it is earnestly hoped, he will be seen as advantageously as in the present instance. No data.

Our Contributing Critics

THE picture offered this month to our contributing critics for consideration is "Fishermen's Huts, San Leandro Bay," by F. W. G. Mochus.

An Up-to-date Subject

AMATEUR camerist to pretty girl (a brand-new acquaintance) after having posed and photographed her: "If I should kiss you, I suppose that you would go and tell your mother."

She: "No, my lawyer."



WITH THE TRADE



The British Lens-Industry

REGARDING the future of the photographic lens-industry in England, the president of the Edinburgh Photographic Society is of the opinion that "it *may* be . . . that English makers *will* be able to produce lenses rivaling the best productions of Jena." To this sentiment the *Amateur Photographer* replies: "Not that they have done so; but that now that the Germans have shown the way, the British makers, if only they try hard—and have luck, shall we say?—*may* one day ultimately reach that level. We hope that the British lens-makers will ask themselves how it comes about that on such an occasion as the annual presidential address referred to, British lenses are described in such a way, without anyone of the audience, so far as we can learn, being in a position to stand up and challenge the implication. Some of us know that the best products of our leading opticians are second to none, but it is clear that that knowledge is still limited to the few. It is not the fault of the photographic press. But it is surely the business of those who actually make the lenses to leave no stone unturned to have their merits known and appreciated."

DEAR MR. FRENCH:—

We have just received the following telegram which will be hailed with much joy by all who are using, or desire to use, flash powders for photographic purposes. Will you kindly announce the *good news* in the first issue of your valuable Magazine which goes to press, namely,

"WASHINGTON, D.C., Jan. 11, 1919.

JAS. H. SMITH & SONS Co.,
Chicago, Ill.

Restrictions on Flashlight-Powders removed from explosive-regulation list January 9, 1919.

CLARENCE HALL,
Chief Engineer, Bureau of Mines."

Very truly yours,

JAS. H. SMITH & SONS Co.

The Wellcome Exposure-Record and Diary

THE 1919 edition of this useful and handy annual publication, the usual pocket-size, has been received. In looking it over carefully, we find that it contains the Wellcome Standard Exposure Calculator, accompanied by tables of plate and film-speeds, and light-conditions, for every month of the year, which enable the camerist to determine the accurate amount of exposure for any subject with a given lens, stop and plate or film. This information is now obtained by a novel and improved change in the scale, and requires but *one revolution* of the disk, instead of consulting several tables, as formerly. There is also a weekly diary and a generous number of record-pages for negatives and positives. This neat, simple, accurate and concise guide is for sale by all dealers, throughout the United States and Canada. It has PHOTO-ERA's heartiest approval.

A Valuable Booklet on Lantern-Slide-Making

THE Eastman Kodak Company has issued a very practical and interesting illustrated booklet, "Lantern Slides, How to Make and Color Them." It is of technical and artistic value to every professional and amateur photographer who is eager to do the very best work. This booklet is obtainable at photo-supply stores or from the publishers.

A. Madeline to Make Short Trip Abroad

THE opportunities of the reconstruction period are so apparent to A. Madeline, 503 Fifth Avenue, New York City—importer of high-grade cameras and lenses—that he has decided to make a short trip to France and England to replenish and enlarge his stock. Mr. Madeline hopes to obtain the American Agency for a French anastigmat which, in his opinion, equals in speed, quality and definition the finest lenses now on the market.

Beware of Formulæ for Sale

IN a recent issue of the *British Journal of Photography* appears a well-timed editorial warning to those who may seek to enrich themselves over night by purchasing formulæ of "immense commercial value." In most cases, these "newly discovered formulæ" are already to be obtained from reliable books and periodicals devoted to photography. No inventor or "discoverer" of a really meritorious formula fears to have his work investigated by a reliable independent expert; and this precaution should be taken without exception before any sale is "closed." There would be fewer bitter disappointments if purchasers would first make a thorough investigation.

Such is Fame

It has remained for a well-known English dryplate firm to discover an advertising-value in President Wilson's famous Fourteen Points, and to utilize it, too. This cleverly adapted full-page advertisement appeared in a November issue of the *British Journal of Photography*, and made a deserved sensation. At the top of the page appeared the figure of the President in the act of raising his silk-hat in salute, and smiling broadly. Then followed the Fourteen Points—with no reference to the future welfare of the world, however, but setting forth the advantages of a dryplate of standard quality. The slogan—"Surrender!" in large, bold-face type, concludes this daring act of publicity.

WE are in the dawning of a new era. Old conditions and methods have passed away and business men must adjust themselves to the times that are to come rather than try to readjust themselves to those that were.

The Spaldia.

An Announcement

OUR activities for the past year have been nearly 100 per cent. devoted to war production of vital importance to the government, compelling us to discontinue regular manufacture in practically all of our lines.

The cessation of hostilities has now enabled us to begin the readjustment to a peace-production basis. While this adjustment must be gradual, we are pressing it with all possible speed in order to satisfy the requirements of our normal trade at an early date.

We appreciate the patience and understanding with which our patrons have reacted to the situation and trust they may continue to exercise such consideration until our manufacturing-facilities are once more on a pre-war footing.

Bausch & Lomb Optical Co.

622 ST. PAUL STREET, ROCHESTER, N. Y.

New York

Washington

Chicago

San Francisco

Leading American Makers of Microscopes, Projection-Apparatus (Balopticons), Photographic Lenses, Ophthalmic Lenses and Instruments, Range-Finders and Gun-Sights for Army and Navy, Searchlight-Reflectors, Binoculars, and other High-Grade Optical Products.

MARCH

1919

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PHOTO-ERA

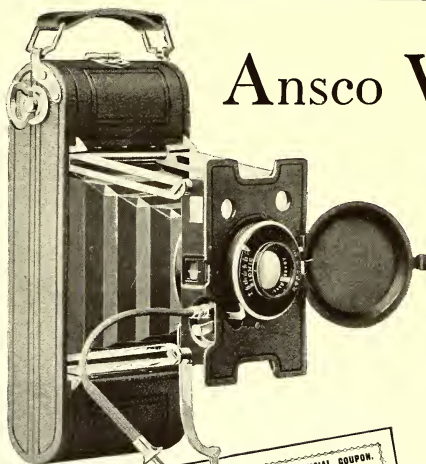
The American Journal of Photography



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BOSTON, U. S. A.

The Gift of Gifts at All Seasons



Ansco V-P No. 2

TO the soldiers of the American Expeditionary Forces no gift can take the place of a camera—and now that hostilities have ceased and the censorship lifted, Ansco Cameras will be called for more than ever.

That the Ansco V-P No. 2 is the choice of the boys “over there” is well shown by the following letter from one of them:

ANSCO COMPANY,
Binghamton, N. Y.

Gentlemen:—The enclosed cut of an Ansco Camera, together with Money Order for \$27.50 and Christmas package coupon, tells what's wanted—Ansco V-P No. 2, with F 6.3 lens. Stick the coupon on tight. No writing necessary.

Sincerely,

EDGAR C. ATHEY.

ANSCO COMPANY, Binghamton, N. Y.

Approved by War Dept.
Approved by F. G. Dept.

AMERICAN EXPEDITIONARY FORCES
CHRISTMAS PACKAGE COUPON

FOR: Athey, E. C. (Name) Sgt. Maj. (Rank) 153024 (Army Serial Number)
Att. Casual Co. #1, General Headquarters, APO 706. (Army of Service)

PASTE THIS COUPON ON THE PACKAGE

DIRECTIONS: One Christmas package not heavier than 3 pounds and not larger than 4 by 4 by 3 inches will be carried free from Hoboken, N. J., to each American soldier in Europe. Standard boxes of these dimensions will be furnished, upon application, by local chapters of the American Red Cross in the United States. Christmas packages must not contain perishable articles, or any articles prohibited by the postal laws from transmission by mail. PACKAGES NOT CONFORMING TO STANDARD FURNISHED BY RED CROSS WILL NOT BE ACCEPTED. This coupon is authority for any postoffice to accept on or before November 20, 1918, a Christmas package conforming to the above regulations for the soldier named herein. Postage to Hoboken, N. J., must be prepaid.

THIS COUPON MUST BE PASTED ON THE PACKAGE TO SECURE ITS TRANSMISSION

A. G. FRANKLIN, Insp., G. H. Q. A. E. F., 1918.

Somewhere in France

October 4, 1918.



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JASCHA HEIFETZ
MISHKIN STUDIO

PHOTO-ERA

The American Journal of Photography

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Vol. XLII

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No. 3

Race Between Camera and Amateur

ARTHUR PALME



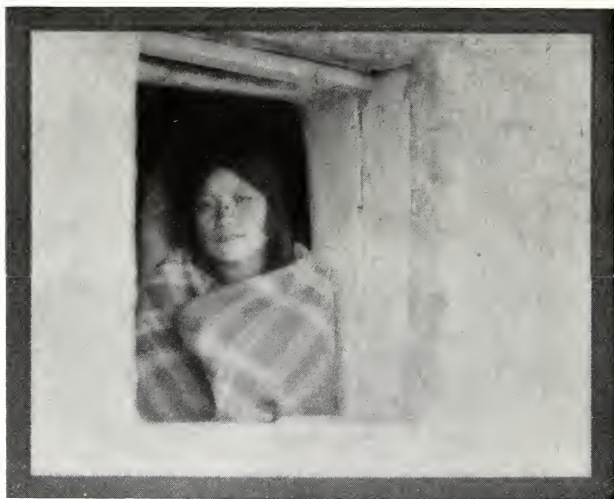
It is now twenty years ago that the bacillus photographicus entered my system. Then, I met my uncle, who, a year previous, inherited a 5 x 7 view camera, equipped with a Goerz F/6 anastigmat, and about fifty pounds of accessories and chemicals. On one of his library-shelves were placed about three lineal feet of concentrated photographic wisdom. Amateur photography was then in its infancy; and since my uncle lived in a small town, there was no one near to explain anything pertaining to this mysterious art. That's where the three lineal feet of books proved of value.

When I met him—a year after his inheritance—he produced already very laudable and technically almost perfect pictures. The first few weeks after he got his camera, he spent two hours, every evening, reading in his various books descriptions of different makes of photographic apparatus, comparing these with his outfit, and making himself generally conversant with every matter photographic. After being thus mentally equipped, he ordered from the nearest large city some plates and papers. Having filled some of his plateholders, he went out on the first fine day with his camera, a weighty tripod and one of the books and strolled in the picturesque neighborhood until his eyes beheld a spot in nature worth recording. He set up his tripod, unpacked and assembled his camera, and began to inspect the view on the ground-glass. No, he did not “compose.” I am sure, as in those days that word did not bother any photographer. He simply used common sense,—avoided an obtrusive telegraph-pole or the side of a barn in an otherwise perfect landscape. Whether the view was “in balance,” or whether the eye of the beholder “had a natural entrance and exit to and from his picture,” was absolutely unknown and immaterial to him. He tried to get a copy of a pleasing piece of nature, as true to the original

as monochromatic and technical reproduction would permit. Finally, the chosen standpoint was all-around satisfactory. Subsequent trials with different lens-openings proved how much definition of the foreground gave the most pleasing effect to the eye.

He had read with much interest all the above-mentioned manipulation, over and over again; but to go through all these himself, proved fascinating, if not thrilling. Then he sat down, pulled out his book once more, had one good look at his surroundings, and began to calculate. Now came the most important thing of all—the right exposure. There were, of course, no exposure-meters or tables available in those pioneer-days of amateur photography. “F/16 and two to ten seconds ought to make it” he finally decided, and for the first time in his life he exposed a plate. He gave two seconds the first plate, inserted another one and gave it six seconds and a third one ten seconds, labeling each one accordingly. That, he called a day's work; and hurried home to his “darkroom” with great expectations.

There were some old scales among his inherited paraphernalia, and presently the compounding of the developer and fixing-bath was taken up. From his books, he chose formulae containing such chemicals as he found among the many bottles. There was no darkroom available, so he awaited nightfall with greatest eagerness, hung some blankets over the window in a room, and began to develop his plates. He told me, later, that it was the most exciting half-hour he ever spent, as he watched little black spots appearing slowly all over the three plates by the dim light of the red, smelly, oil-lamp, making up more and more distinctly the whole negative of the landscape. Upon fixing, the two-second exposure proved to be the best of the three plates. A note to this effect was entered in his photodiary for further reference. The rest was easy. The following day sunlight produced a print on



HOPÍ WOMAN

FORMAN HANNA

LOS ANGELES SALON

Solio paper which was toned, fixed and washed. So well and carefully was all the work done, that my uncle still possesses and obviously cherishes this first of his prints.

Based upon this foundation—together with many similar experiences—he built up his knowledge of photography systematically, without any other help than reading-matter and common sense. Within the remarkably short time of one year he acquired a general knowledge of photography impossible to obtain in any other way. His well-filled notebook was his exposure-meter; and every time that he went out with his camera, this little notebook was his companion—ever ready for reference or comparison.

To-day, twenty years later, amateur photography has been simplified and reduced in cost—as far as the camera itself is concerned—to such an extent that you can find in almost every family a member that has, at some time or other, owned and used a little kodak. A marvelous and flourishing industry has been established to take care of just the requirements of the immense army of amateurs who enjoy picture-making.

But,—spell this word Capital B, Capital U, Capital T,—when we come to examine the results obtained with these simplified modern cameras, we will find that they are far below the standard of the old days of fifteen or more years ago; and the most pathetic part of it is that the average amateur is apparently fully satisfied with his poor or—at best—mediocre results. Now, that sounds as if that modern and simplified camera were at fault; but that is not true. It's the amateur himself who is sorely at fault. Every modern camera is all that the manufacturer claims for it, provided that it is used properly and within its limitations. We are living at a time when hustle and haste has become veritably our second self. Speed is our slogan; anything for *speed*. Virtually everything in our present life has been pushed to the limit of speed during the last two decades. Fortunately, not all of it has lost in quality.

Soon after the first practical hand-cameras were placed upon the market, a new business began—the photo-finisher. You pressed the button, he did the rest, and he charged well for it. With this institution fifty per cent. of the



THE TORREY PINE

HAROLD A. TAYLOR

"trouble" was taken out of photography; but with it, the amateur sacrificed at least seventy-five per cent. of the delight and romance of photography. The development of plates and films, and the printing of the positive were done by professionals, and it was impossible and unnecessary for the amateur to accumulate any real knowledge of photography, at all. He simply pressed the lever, relying mostly on luck for results. Of course, as this was about the only thing he had to do, it made thinking of any kind unnecessary. Is it any wonder that the results are poor? Is it any wonder that good pictures are the exception, or the result of pure luck? The present day snapshooter is so spoiled that, when he finds one or more of his films utterly unprintable, he accuses the finisher. Naturally, he does not know that it requires something more than merely to press the lever on his kodak to get a good picture. Isn't that deplorable?

It may be stated with fair accuracy that the number of real amateur photographers in relation to the number of cameras purchased decreased considerably during the evolution of the

modern hand-camera. This sounds like a paradox; but it is true, nevertheless. Naturally, the average standard of quality of the final product fell below that of earlier years. All readers of this magazine, and others, are on the right road to the longed-for goal. You read to learn and to improve; you are bound to get, eventually, what you were after, the moment you invest in your camera—good pictures. The success of practical amateur photography begins to fade; many even treat it with ridicule.

Let us try to save the situation. Do not look for aid to the professional finisher, as it would be diametrically opposed to his own interests. It is a question for the relatively small but effective army of real amateurs, who should add as many snapshooters as possible to the ranks of practical workers. Few of these "press-the-button artists" know the charm the darkroom offers. Go, tell them about it. Emphasize the better results at greatly reduced expense. The camera has won the race so far; let us see if we cannot pull the man behind it to the front.



CALM AND SERENE AFTER THE STORM

ALLEN E. CHURCHILL

Winter-Photography in the City

ALLEN E. CHURCHILL

THE balmy days of autumn, with their brilliant colors and golden sunsets, have long passed away. It is now the middle of winter. I have many friends who are amateur photographers and when we all get together of an evening, little else except cameras and photography is discussed. This subject becomes the general topic of conversation for the entire gathering and views are exchanged, suggestions made and individual experiences rehearsed.

After attending several such meetings, I entertained a very unusual attitude toward winter-photography from remarks made at various times by several of my amateur friends. They conveyed to me the fact that most of their number gave up photography entirely during the winter-months. The general program, after summer and autumn had gone, was to pack their cameras away in some dark corner of an unused

closet, and let them remain idle and neglected until summer returned again. I was much amazed that such conditions should exist among those who were usually ardent lovers of all things photographic. Finally, I determined to get to the bottom of things and, if possible, find a reason for the apparent lack of interest in winter-photography.

The first person questioned replied in words something like the following: "What pleasure do you suppose I can derive from carrying a camera through the streets on cold days, when it is snowing and icy blasts of wind drive the snow into my face and the intense cold that accompanies it fairly congeals the marrow in my bones—besides, what is there worth photographing on such days?"

I would like to say right here that there is much to photograph. The photographs used to illustrate this article prove clearly that there are



SUNSHINE AND SHADOW
SNOWBOUND
ALLEN E. CHURCHILL

many excellent opportunities to obtain artistic and pleasing pictures, far different from anything that could be made in summer or autumn. One of them made on a day when a blinding snow-storm swept the streets, shows the possibilities, I think. The wind was so strong that it blew the men's overcoats almost out straight. One man in particular may be seen holding wildly on to his hat to keep it from blowing away. It was made about eight o'clock one morning and it shows a group of the city's toilers hurrying to

whence it is again shoveled into trucks and removed to the city's dumping-ground.

However, do not suppose for one moment that the charm of winter-photography is confined only to stormy days. Far from it, for beautiful groupings of highlights and shadows can be obtained on bright, crisp, sunshiny days that often follow snowstorms that have raged all night and cleared off about sunrise. This is the time to go for a walk through the city's parks, camera in hand, looking for pictures. The reason that I



DRAPED IN WINTER-BEAUTY

ALLEN E. CHURCHILL

work. However, I will confess that it requires considerable patience to be able to stand in the face of such severe weather and wait calmly for the right moment to release the shutter. Bear in mind also that the man behind the camera must have a plentiful supply of enthusiasm to brave the storm. Scenes such as I have described are usually found on street-corners, where there is space for the wind to sweep at top speed, unchecked by the walls of buildings.

I might suggest another subject. During and after snowstorms, groups of sturdy men will be seen on almost every corner, busily engaged in shoveling the snow that has held up traffic. They toss it into heaps eight or ten feet in height, from

suggest parks is because they are usually easy of access and are rich in subjects. Try the following experiment and note the result. Some morning such as I have described, clothe yourself in warm garments, put on a pair of heavy gloves, also a pair of stout boots and start out. Roads and paths are usually broken up into odd-looking heaps of snow by passing of vehicles and pedestrians. The bright sun falling at an angle, casts spots of sunlight and shadow that make beautiful pictures when made against the light. To accomplish this successfully, special precaution must be taken to avoid the halation that results from the extremely bright sunlight striking the back of the plate. Non-halation plates are best.



TOILERS FACING THE BLIZZARD
EQUITABLE BUILDING, AFTER FIRE
ALLEN E. CHURCHILL

It is always wise to use a slightly orthochromatic plate—my favorite is the Orthonon—it has a thick film and considerable latitude. It may be backed with opaque, or not, as judgment dictates. In addition, a hood just long enough to avoid cutting off the corners of the plate is necessary. One of these can be made in a few moments out of some heavy black-matte paper, that can be obtained for a few cents a sheet in any photo-supply store together with a tube of liquid glue. If strongly made of several thicknesses wound and glued over one another, it will last a long time and its weight amounts to little.

Be sure to give full but not excessive exposure, as it is necessary to have soft shadows that show detail. I would suggest that the plates be developed in a well-controlled and not too strong developer. A better one cannot be found than the A. B. C. Pyro soda-formula recommended by virtually all the best plate-makers and found in their booklets. It is the standard developer used by hundreds of professional as well as amateur photographers, its immense popularity being due to the fact that it is easy to prepare and can be altered to suit any condition. It should be mixed in such proportions as will not develop too much contrast. The negative should be soft yet snappy, and have a proper gradation between its highlights and shadows that will

ensure its printing all over. For the assistance of those who have not or cannot obtain one of the booklets mentioned above I will give the formula:

A	
Water.....	16 oz.
Oxalic Acid.....	12 grs.
Pyrogallie Acid.....	1 oz.

B	
Water.....	16 oz.
Sulphite of Soda (dry).....	2 oz.

C	
Water.....	16 oz.
Carbonate of Soda.....	1 oz.

For use mix in following proportions:

For Tray.		For Tank.	
A.....	1 oz.	A.....	1 oz.
B.....	1 oz.	B.....	2 oz.
C.....	1 oz.	C.....	2 oz.
water, 8 to 10 oz.		water.... 58 oz.	

Temperature 65° to 70° F. Time, 30 minutes.

I think it should be apparent to those who have read this article that it is really worth while to try photography during the winter-months. It is my earnest hope that my little story will arouse sufficient interest to prompt some of the readers of PHOTO-ERA to emulate my example.

Stop!

FREDERICK C. DAVIS



LUNNY title," you say. "Stop what? Stop development?" No! "Then you mean stopping down the lens." Wrong again. Strangely enough, this sort of stopping has nothing whatever to do with stopping down the lens. I mean stopping motion. And as the title sounded strange to you, that phrase sounds peculiar to me. Can we really stop motion?

Let us assume that we have a camera set up, ready to make a picture, and that the plate covers a space one hundred feet wide. A moving object appears at one side, and crosses the space in one second. Therefore, the image of the moving object crosses the ground-glass in one second. Now let us suppose that the plate is ten inches wide. The object on the ground-glass moves one inch in a tenth of a second. We snap the shutter, set at one one-thousandth of a second. During that time, the object

moves one one-hundredth of an inch across the ground-glass. Now let us set the shutter five times as fast: the object will move one-fifth as far—one five-hundredth of an inch. Let us stretch our imagination and set the shutter at one one-millionth of a second. The image will have moved one one-hundredth thousand of an inch, and so on. Therefore, correctly speaking, it is impossible to stop motion. But if we set the shutter so that it moves faster than the image of the moving object moves across the plate, the blurring, due to motion, will be so slight, that it will not be and often cannot be noticed. It is then we say that we have stopped motion. We must tolerate this phrase as we tolerate the "infinity" of the camera-maker.

Many hard-and-fast rules have been set down to stop motion. Incomprehensible tables have been prepared; formulæ have been presented, which, if they had been used, would have taken



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ANNETTE KELLERMANN

WHITE STUDIO

up so much time that when the correct exposure was figured out, the object would be several miles away. Some of these tables and formulæ dwell on the diaphragm-stop. Some do not. It is best to let the stop alone. Use the smallest stop possible under the conditions of light and speed. Overexpose rather than underexpose, referring to light, and not to motion.

Almost all objects, except very slow ones, can be classified under the seven following heads:

Slow walk, trees waving in wind, cattle grazing, move about two and a half miles per hour.

Ordinary walk, slow vehicles, waves, slow boats, and so on, move about five miles per hour.

Running, jumping, athletic moves, average motor-boats, rapid vehicles, ice-skating, diving, come under ten miles per hour.

Steamships, bicycles, automobiles, sleighing, yachts, cycles, trotting horses, and so on, move about twenty miles per hour.

Racing horses, electric cars, speed-boats, fast automobiles, street-cars, etc., come under thirty per hour.

Automobile and cycle-races, trains, airplanes, flight of birds, move one hundred miles an hour.

Many more moving objects could be classified in this table, but the table is given only to enable the photographer to estimate closely the speed of any moving thing.

When the speed is estimated, an exposure is given, as follows:

Speed	Exposure
2½ miles per	1/100 second
5 miles	1/200 sec.
10 miles	1/400 sec.

Speed	Exposure
20 miles per	1/800 second
30 miles	1/1200 sec.
60 miles	1/2400 sec.
100 miles	1/4800 sec.

Of course, an exposure of 1/2400, or 1/4800, is ridiculous. Besides, the exposures given are for a moving object twenty-five feet away, and when something going one hundred miles an hour passes me I choose to be rather more than twenty-five feet away.

For different distances:

4 feet away, multiply exposure by 6.
8 feet away, multiply by 3.
12 feet, by 2.

Greater distances:

Fifty feet away, divide the exposure by 2.
100 feet, divide by 4.
200 feet, by 10.

These exposures are for objects moving parallel to the plate or film. If the object moves at an angle of five to ten degrees, you may safely give twice the exposure specified. If it moves at an angle of forty-five degrees, you may give three times the exposure.

That is something to know. Looks like a lot, doesn't it? Suppose that a man were running up the street, directly across from you and that you were about fifty feet distant: expose for one-fiftieth of a second. But, perhaps, if you were slow to get your camera set, he might have run ahead, perhaps, twenty-five feet. Then you can give one twenty-fifth or even a twentieth. The tables will click to your memory after a little use. Try them!



ECLIPSE OF THE SUN

WILLIAM S. DAVIS

Photographing an Eclipse with Ordinary Apparatus

WILLIAM S. DAVIS

AS an eclipse of the sun or the moon is always an interesting astronomical event to watch, and to record as well, it occurred to me that some readers of PHOTO-ERA might like to know what can be done with regard to the latter without going to the expense of special apparatus; and, therefore, I am giving the results of a few experiments in this direction.

Our illustration of an "Eclipse of the Sun" was made June 8, 1918, at 6.08 P.M. (solar time not "daylight-saving"). Although total in some parts of the world, it was visible only as a partial eclipse along the northern Atlantic seaboard, so that the illustration shows virtually the maximum shadow seen in this part of the country. As the weather was very clear, the point first thought of in connection with photographing the effect was the avoidance of halation around the sun's disc. Consequently, in addition to using a non-halation plate, I smoked the outer surface of an Ingento series "A" ray-filter to a uniformly dark

tint by holding it over a small kerosene-oil lamp-flame, minus a chimney. If care is taken to keep the filter well away from the flame, there is no danger of injuring it, and the smoke is easily wiped off afterwards. When placed over the lens, the smoked filter lessened the intensity of the sun's rays greatly on the focusing-screen; but without affecting the definition in any way.

A 4 x 5 long-bellows camera was chosen, and the rear element—about 13-inch focus—of an R.R. lens used at an effective aperture of F/20. The exposure of two seconds through the smoked filter proved sufficient for the Standard Orthonon plate employed which was then developed in a full-strength developer containing a few minims of bromide to ensure a clean negative.

With a lens of only 13-inch focus, the image of the sun is naturally small—about 1/9 of an inch—but if carefully focused, and a negative showing little grain is obtained, almost any amount of magnification is possible. The original print that accompanies these notes is a ten-diameter

enlargement, and still greater linear magnification is possible. The main difficulty with regard to such enlargements is that they are beyond the capacity of some types of enlarging-apparatus. However, there are several ways to get around this. For instance, in making the print just referred to I used the same camera employed in making the negative; but I replaced the lens by one of very short focus, thus obtaining a high degree of enlargement, with comparatively mod-

1½-inch equivalent focus. Another way to obtain a short-focus lens for enlarging is to attach a strong pocket magnifying-glass over the regular lens, and use a very small stop, when the results should be satisfactory, since only a limited field must be covered. If one possesses one of the smaller vest-pocket cameras, the back may be removed and the camera set over the opening for the front-board of the larger apparatus, thus giving one the use of a good lens, usually between



ECLIPSE OF THE MOON

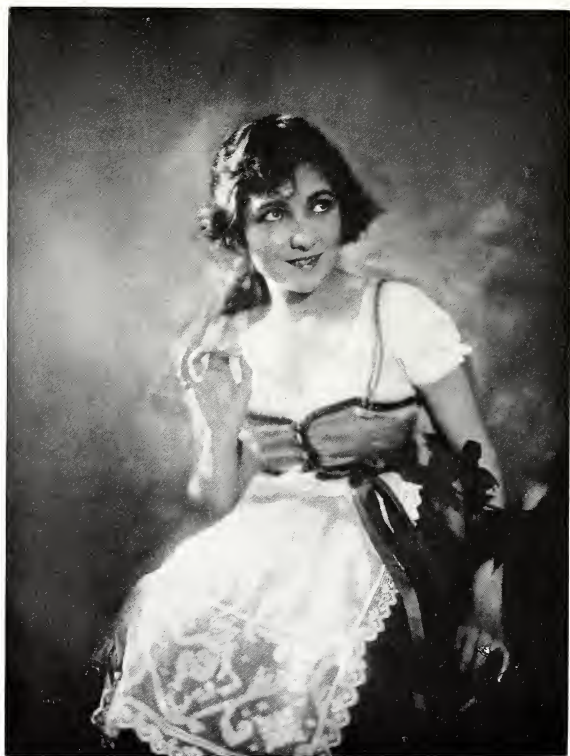
WILLIAM S. DAVIS

erate bellows-extension. An improvised holder to receive the negative and a piece of fine ground-glass back of it, to diffuse the light, was placed in front of the lens, both camera and negative-holder being set on a board and turned toward a window away from direct sunlight. The printing-paper was inserted in a platholder and kept flat by a piece of clear glass laid over it, allowance being made for this difference in the focal plane when focusing.

The short-focus lens mentioned, I made up several years ago for low-power photo-microscopic work by mounting two single lenses in a block of wood, with a small-aperture stop between, obtaining in this way a combination of

2½ and 3-inch focus. Any of the above expedients are useful when one wishes to pick out a small part of a negative and enlarge it considerably. In astronomical photography it is often very important to enlarge a certain part of the negative.

The picture of a "Partial Eclipse of the Moon" was made a number of years ago, and in making it I used the 20-inch rear element of a symmetrical lens stopped down to an effective aperture of approximately F/56. The exposure was three seconds on a Carbutt "B 20" plate, which to-day would be considered a slow emulsion, although the negative does not seem to show signs of underexposure. It is needless to say that I did not use a smoked ray-filter!



LOUISE GROODY
ALFRED CHENEY JOHNSON



Lantern-Notes



THE lantern-lecture has done good service both for entertainment and propaganda-purposes during the long-drawn-out period of the war. There is every likelihood of its becoming a still more popular function now that peace is with us once more. I can foresee a great revival in photographic society meetings. As the membership returns to normal and lighting-restrictions abate, the lantern-evenings that have always formed a substantial item in the entertainments provided by photographic associations will become more numerous than ever.

Many members of societies who have had opportunities during the past four years to procure pictorial and other material in relation to the war will probably be eager to put their experiences and photographic records into lecture-form, for the benefit of members of their own and other societies. It may be well to point out to those who are contemplating the preparation of such a lecture, that, however interesting a series of incidents may be depicted, their effect will be entirely discounted unless they are arranged in such a sequence as to make a connected story, and at the same time a story is provided that adequately and appropriately supports the pictorial element.

There appear to be four kinds of lantern-lectures for which the photographer-lecturer may be responsible. First, there is the interesting and well-delivered lecture with good slides. This is welcome always. Secondly, the series of bad slides shown by a good lecturer. Thirdly, the collection of good slides accompanied by an indifferent or incoherent discourse. Both of these are tolerable in the ratio of the goodness of the slides or the lecture respectively. Fourthly, there is the set of poor slides conjoined with the bad lecturer.

The first-mentioned is generally the product of the "old hand," who is not only a good photographer but a good speaker. He knows what he has to say and says it well. The second class is more excusable, as the pictures may have been made under conditions of extreme difficulty. For the third class there is little excuse, and for the fourth none at all. It is more particularly with the third class that the difficulties arise in photographic societies.

The photographer who sets out to prepare an illustrated lecture should have three definite points in view—first, he should have a clear idea of the story he is going to tell: and no matter whether this deals with one particular incident

or a series of incidents, there should be some definite connecting link between the various parts, and an unbroken chain of interest throughout the whole. Secondly, he should, if possible, deal only with those features of his subject that he can illustrate with his pictures, and of which he has personal knowledge; as, unless he is an accomplished *raconteur*, many of the points are likely to fall flat unless the eyes as well as the ears of the audience are attracted. Thirdly, having clearly mapped out the points of the lecture and the possible illustrations, he should see to it that his slides are the very best that can be made from the negatives. Finally, he should rehearse the whole discourse, with the slides, so that it can be delivered with little or no reference to a written manuscript.

In the preparation of a lecture, or a series of notes therefor, the simplest plan is first to arrange the slides in approximately the order that they are to appear on the screen; and then, in the comfort of one's own home, to spend a quiet evening going through them, examining each one carefully in the hand against a well-lit sheet of white paper, and jotting down the title and any incidents the subject suggests. This is best done on a series of slips of paper, numbering each with the same number as that on the slide. Each slide can then have a little description of its own. At first, it may be possible only to write the title and a few disconnected notes; but on going through the slides thoroughly several times it will be found that a number of points arise which can be referred back to definite slides, and are accordingly entered on their respective slips. Little anecdotes or other verbal trimmings which occur in the arrangement of the subject can also be included in the same way.

Each slip should finally be copied out carefully and legibly, and, if possible, typewritten on small thin cards about the size of postcards. There is also a chance of the notes being considerably abbreviated. Finally, on going through the whole series, it will be found that not only does each slide suggest its own story, but if the job has been done conscientiously, the sequence of the slide and the continuity of the lecture will gradually become memorized by the lecturer, and elaborated until both work harmoniously.

Then, armed with this small bundle of card-notes, the lecturer can sally forth to the lecture-room with his box of slides—arranged in proper order to hand to the lanternist—with every confidence that he can take his place in front of

the screen and talk connectedly and interestingly for an hour or two to provide an entertaining evening for his audience.

As in most lecture-rooms a desk with a shielded candle-light or electric bulb is provided, it will be only necessary for the lecturer to glance at his cards from time to time to refresh his memory when each slide appears; and if care is taken to change the cards, say from top to bottom of the little pile, each time a slide is changed he can rely upon having all his notes concerning that particular slide to hand for in-

stant reference if occasion demands. If the lecture proves to be popular, and it has to be given on many occasions, he will soon find that he is able to dispense with the notes altogether, the mere appearance of the slide on the screen being a sufficient reminder of all there is to say about it. There is no doubt that the greater confidence the speaker acquires—that confidence that is born of knowledge of the subject—the finer and more agreeable will be the lecture, than one given by a speaker who is in difficulties from the start.—*The Amateur Photographer*.

By Other Lights

(Sixth of the "Professor Pyro" Talks)

MICHAEL GROSS

BEFORE leaving the subject of our last talk—color photography," began Professor Pyro, "I should like to mention briefly a few interesting color and light departures in picture-making that have been made at various times by various people.

"About fifteen years ago, Professor Robert Williams Woods, of Johns Hopkins University, gave the photographic world an interesting and illuminative paper on the results he had obtained by making photographs through the infra-red and ultra-violet rays of light in the spectrum."

Professor Pyro paused to give the class a chance to express its astonishment at the learned Mr. Woods' feat, but the "express" must have been a freight-car, for it arrived very slowly.

Suddenly, the solution for the lack of enthusiasm dawned on Professor Pyro and he said, with a smile:

"It would seem that, without further elucidation on my part, the statement regarding the work of Professor Woods sounds about as impressive as if I had spoken the words in ancient Sanscrit. But I don't blame you one bit for being perplexed," he went on. "I candidly confess that the first time I heard the names mentioned I thought 'infra-red' was the name of a new flash-light powder, whereas 'ultra-violet,' I imagined, was either a fancy brand of perfume or a new kind of ray-filter. Perhaps a moment's explanation will serve to make these two terms clearer to you.

"You all have seen, no doubt, the rainbow-colored band that is formed upon the wall of a room when a beam of sunlight passes through a

prism of glass—especially through one of those dangling crystals with which some of the old-fashioned chandeliers were so profusely hung. This vari-colored band is called a spectrum and, if we examine it closely, we will find that though the colors seem to merge one into the other, the band consists really of seven distinct shades—red, orange, yellow, green, blue, indigo and violet—the colors being in the order in which I have mentioned them.

"But these seven colors, which we are able to see, do not include all the colors in the band. The truth of this statement can be determined readily by darkening a room so that only the beam of sunlight necessary to produce the spectrum is admitted. If we now expose a photographic plate, that is sensitive to the entire spectrum, in such a way that it receives the impression of the band of color, we will find, upon development, that the image extends to a considerable distance beyond the violet at one end of the spectrum, and far beyond the red on the other end. This experiment proves that there must be a region beyond the violet and the red which the eye cannot see, but which a sensitive photographic plate is able to register. This region, on the violet end, has been given the name of 'ultra-violet,' and 'infra-red' is the name given to the region on the red end. Now that we have a clearer conception of what these terms mean, let us get back to Professor Woods' series of experiments.

"By covering the lens of his camera with a combination of glasses which absorbed all visible light, but transmitted the invisible rays which are found beyond the red of the spectrum, Pro-



BLUSTERING MARCH

JOHN PAUL EDWARDS

fessor Woods succeeded in obtaining several landscape-photographs taken solely by means of infra-red light.

"These landscapes were remarkable in that, though photographed in broad daylight, with the sun shining brightly, the sky photographed a dead black, the green trees came out a pure white, and the foliage had the peculiar gray tint you have no doubt observed at night on a snow-covered stretch of lawn.

"Through a process of evolution, our eyes have become sensitive to only a certain region of the total spectrum which comes to us from the sun, but the pictures made by Professor Woods give an idea of exactly how the world would look to us if it so happened that our sight were sensitive only to the infra-red rays. We would live in a sort of perpetual 'negative' state—with all whites appearing black and all blacks, white.

"Professor Woods obtained still more wonderful results through the utilization of the rays at

the other end of the spectrum. By a peculiarly constructed lens, cut from a crystal of quartz and coated with a chemical substance, he succeeded in preventing the passage of all other rays of the spectrum, while letting in freely the ultra-violet rays. The photographs obtained through this lens were remarkable because of the fact that, though made in full sunlight, none of the objects in the picture cast a shadow. This phenomenon, Professor Woods found, was due to the fact that the short ultra-violet rays were so scattered by the atmosphere that only a small percentage of them reached the ground in the form of shadow-producing rays from the sun.

"Another scarcely-to-be-believed fact that Professor Woods discovered, was that ultra-violet rays would not pass through even the clearest and most transparent sheet of window glass. In other words, if your eyes were sensitive to ultra-violet rays, but to no other color, you could stand in a room built with clear-glass

walls, and though the sun was beating down upon the scene, you would be in total darkness. With your eyes sensitive to this color, and to no other, you could not determine, by looking through it, whether a clear-glass bottle was full or empty, nor could you tell the time of the day unless you first took the glass crystal off your watch, because of the fact that you could not see through it.

"Professor Woods painted a sign on a piece of cardboard, using for the purpose Chinese white—the whitest substance known. On the same board, he painted a few words in ordinary printers' ink. A photograph of this sign, made by ultra-violet light rays, showed the Chinese white blacker than even the printers' ink—presumably as solid a black as could be obtained. This experiment reversed, with a vengeance, the old saw which runs: 'Black is black, and white is white—only a fool says one is the other.'

"I have no doubt that all of you have, at one time or another, utilized in picture-making various kinds of lights, including daylight, electric light, Cooper Hewitt light, and flashlight. But it remained for Professor William R. Brooks, of Hobart College, to obtain photographs and make prints by Venus-light or the light shed by the planet Venus. This light was not concentrated in a lens or through a mirror, but was used just as it came from the sky.

"A photographic negative, with a piece of sensitized paper under it, was so placed that the direct rays of Venus fell upon it, and in thirty-five minutes the image was fully printed upon the surface of the paper.

"Professor Brooks also made positives by the same method, and succeeded in obtaining some beautiful impressions of laces by placing them in contact with a piece of printing-out paper and exposing them to the light of Venus. All of the Professor's experiments were performed at the darkest hour of the night—immediately after Venus had risen and just before the approach of dawn.

"Now that you are familiar with this series of experiments, none of you need be surprised if you put out a few filled printing-frames some night and then, happening to get up before day has dawned, find your pictures all printed. Don't ascribe the phenomenon to photographic spooks that you believe haunt your house. It will be only good, old Venus—turned into photographer.

"Of course," Professor Pyro concluded, "there have been various other photographic departures than those I have mentioned, such as sending photographs by telegraph and even by wireless; utilizing photography to detect forgeries in handwriting; pictures made under the sea

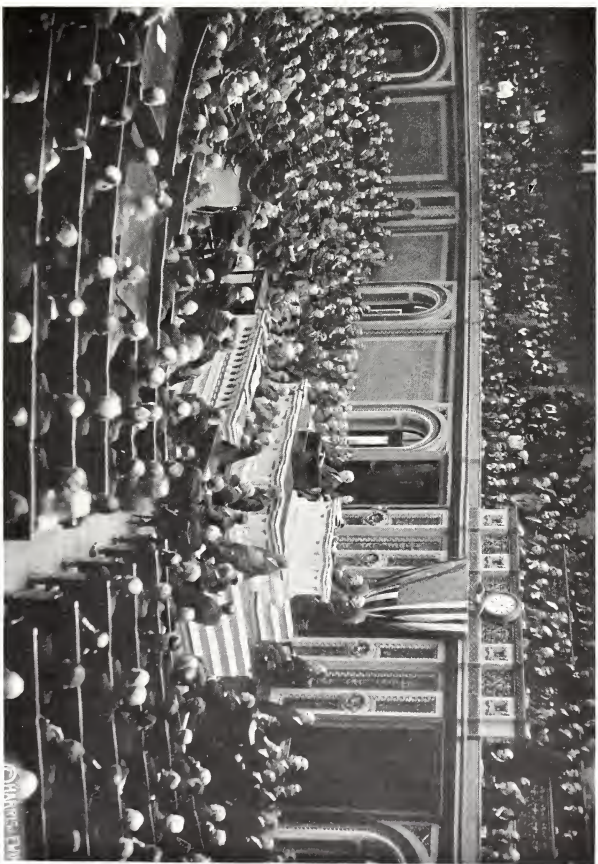
and from the clouds; micro-photography and so forth; but time does not permit my wandering off into these bypaths, interesting though they may be. We must hew to the broad path, let the photographic chips fall where they may.

"In my next talk, I will take up a field of picture-making that has created a new art, brought a source of entertainment and education to the masses as well as the classes and created a business that ranks in size, importance and wealth invested with some of our greatest industries of to-day—kinematography or, as it is popularly known, the 'movies.'"

Temperature, Detail and Density

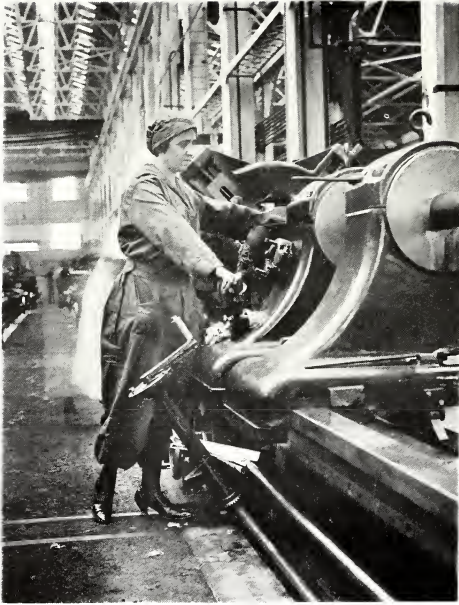
NOW that the colder days are upon us, the worker will do well to look to the temperature of his solutions, neglect of which is a common, if unsuspected, cause of trouble. Some time ago, we were consulted as to some negatives which had all the indications of underexposure. They were very thin. Upon examination it was found that there was abundant shadow-detail, which gave the lie to this supposition. It was discovered subsequently that the developer was kept as a stock-solution in a cold darkroom and, when used, was doubtless much below its normal temperature, thus producing the weak negatives. With some formulae, a low temperature causes the solution to become almost inactive, and the negatives will be found to lack detail and density. Those who develop by the time and temperature method, know that development at a higher temperature will give negatives of more pluck, than those given a longer time with a colder solution. In order to overcome the general lack of contrast in winter-negatives, it is a good plan to warm the developer up to say 75° F., if the plates employed will stand it without frilling; though if the fixing-bath—which is likely to be colder than the developer—is treated in the same way, the danger of frilling is largely eliminated. With some brands of plates, there is a tendency towards chemical fog, but a few drops of ten per cent. bromide solution will prevent this. Much of the same may be said of development-papers. We know of one brand that will never give satisfactory results if the developing-solution is less than 50° F.; but most workers give very little attention to such matters when developing bromide prints. Trouble in this respect is the more likely to be met during the early autumn, before the darkroom is properly warmed, as it should be during the winter, a reminder which perhaps will suggest an explanation of failures at the present time.

The British Journal.



President Wilson Addressing Congress

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AMERICAN WOMAN WAR-WORKER

FRANK E. COLBY

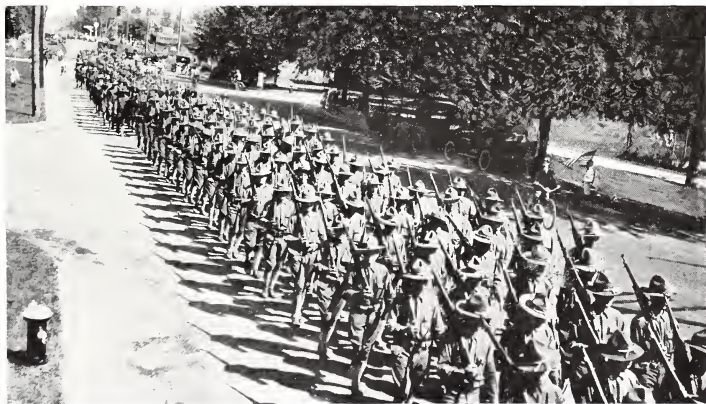
Photo-Era's War-Prints Competition

WILFRED A. FRENCH



SOON after the United States entered the present war, the War-Plans Division of the General Staff expressed a desire to procure for the official files of the Army War College a comprehensive series of photographs that illustrated a war-activity anywhere in the United States. The chief of the Historical Branch of the War-Plans Division immediately issued a general request for photographs of this character, which, if acceptable, were to be included in the permanent historical record as a part which that particular locality had taken in the war. The matter was placed in charge of Major Kendall Banning, S.R.C., of the Pictorial Sec-

tion. Major Banning proceeded at once to solicit, and he received, the patriotic assistance of PHOTO-ERA in the project. To facilitate the work, collectors of photographs—or pictorial historians, as they were designated officially—were appointed in different sections of the United States. At the suggestion of the Editor, the department appointed Herbert B. Turner, a prominent photo-pictorialist, of Cambridge, as pictorial historian and general representative of Massachusetts. Mr. Turner was able to photograph and to collect, with the aid of official, professional and amateur photographers, hundreds of photographs of various war-activities. However, these pictures did not seem to be of



LEAVING FOR CAMP

READY FOR SERVICE

JAMES J. CONNORS

FIRST PRIZE WAR-PRINTS COMPETITION



Children Buying Thrift-Stamps

Mrs. W. Durrant

Honorable Mention — War-Prints Competition

the required standard, possibly because of insufficient inducements, aside from the appeal to the photographers' individual patriotism; for the department had arranged with the principal news-syndicates of this country to purchase unmounted prints of war-subjects at a nominal rate of seven cents each, which is the price at which official United States prints are sold to news-syndicates. The department explained that this price covered merely the actual laboratory cost of production, and that the photographer's practical interest in the movement would be based on purely patriotic grounds. Therefore, on being informed that the local yield of war-pictures failed to meet the expectations of Mr. Turner, the pictorial historian, the Editor adopted the suggestion made by that official, and instituted a prize-competition which was advertised in the November and December issues of this magazine, the closing-date being December 15, 1918. The number, as well as the quality of the pictures yielded by this competition, was gratifying. The awards were made as follows—the first, fifteen dollars, to James J. Connors, professional photographer of Springfield, Massachusetts; the second, ten dollars, to Frank E. Colby, staff-photographer of the *Boston Evening Transcript*. The only Honorable Mention—although prints by other participants were equally meritorious—was awarded to Mrs. William Durrant, of Plainfield, New Jersey. The judges, appointed by the Editor, were Col. Edwin T. Cole, U. S. A., commanding the S. A. T. C. of the Massachusetts Institute of Technology, and, before he was transferred from his post in New Mexico to Cambridge, an amateur photographer of considerable practical experience; Herbert B. Turner, photo-pictorialist, of Cambridge, and the Editor.

The highest award was conferred upon Mr. Connors for an idea that he had expressed by two separate pictures. In the first picture, we see a large body of drafted men, from various walks of life, on their way to the military training-camp. In the second, these men appear as well-drilled, disciplined soldiers, ready to obey the order that will take them overseas to fight for the cause of humanity. The picture, "Woman in the War," by Mr. Colby, illustrates a war-activity that has won universal admiration and respect and, in a greater degree, perhaps, than the one that ministers to the needs of the sick and wounded—the Red Cross. Here, in the field of industrial labor, the women of the nation were suddenly called upon to perform a kind of work that belonged exclusively to men, work that required technical skill, physical strength and, in many instances, a high degree of personal

courage. It now remains to note the children's interest in the war—a subject interpreted with sympathetic ability by Mrs. Durrant, in her Honorable Mention picture. The chief desideratum in these war-pictures was the forceful, convincing expression of an idea, rather than a purely artistic interpretation; yet, in her picture Mrs. Durrant was able to include a degree of pictorial beauty.

It may interest our readers to know that all prints received for this competition, including the prize-pictures, were delivered to the pictorial historian, Mr. Turner, who forwarded them to Major Kendall Banning, at Washington. This was done in full accordance with the rules of the competition, as published in two editions of PHOTO-ERA. The participants in this highly interesting competition are here sincerely thanked, one and all, for their prompt and liberal response. They enjoy, in addition, the satisfaction of having done their share in an important field of patriotic endeavor. From the material point of view, they will be glad to know that their contribution to this cause does not preclude further use of the original negatives. In other words, rights of possession have not been surrendered thereby. The owners are quite free to use them, hereafter, in any way they desire.




THE first object of the professional photographer should be to satisfy his client, the second to satisfy himself. When these two objects can be merged into one, all is well; but if either has to be sacrificed, it must be, to some extent, the latter. The skilful operator, who has thorough control of his light and materials, usually has a predilection for a particular style, and often loses sight of characteristic points in the sitter in bringing him into conformity with it. Hence, the less technically skilled operator, even the raw amateur, often scores a success by securing a real portrait, the imperfections of which are passed over for the sake of its human interest. This is especially the case with people who do not often visit the photographer, and who feel rather ashamed to do so. With such, there is often a feeling of constraint and a fear of looking foolish, which results in a stiff, repellent picture, with which neither the sitter, his friends, nor the photographer are satisfied. It is far better with subjects of this class that the photographer concentrate all his powers on the task of reaching the real personality of the sitter, and to overlook any little defects of pose or drapery.

The British Journal.

Practical and Humorous Experiences in Photography

Part II. Developing, Printing and Enlarging

A. H. BEARDSLEY

T was during my Brownie days that I first attempted to master the art of developing. There are certain incidents which make an indelible impression on the mind and that sear the heart with the hot iron of bitter experience. Developing was one of these. Personal, social and financial disillusion followed in quick succession.

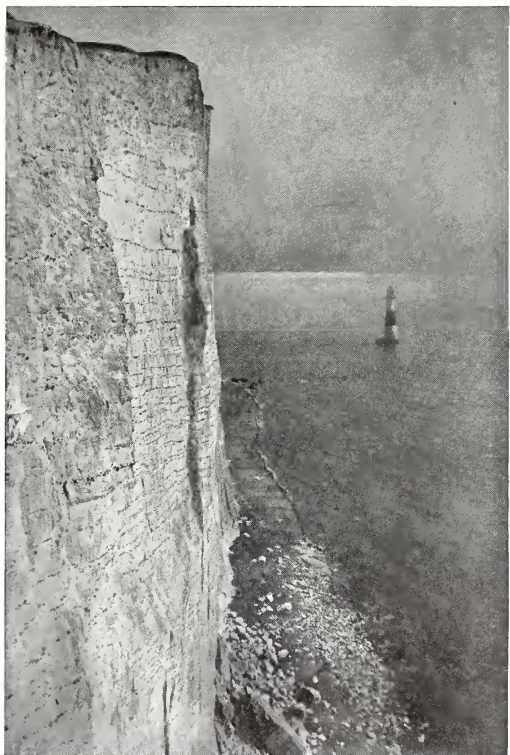
My first exposures with my new Brownie camera had been astonishing to me—also to my friends and relatives. In fact, three of the pictures were so good that to this day I have been unable to improve upon them. Over night I became rated as a first-class photographer by friends, relatives and others who did not know anything about photography. Suddenly something went wrong. After I had spoiled a few dozen pictures, even my most ardent supporters began to murmur among themselves. Certain remarks reached my ears that caused me to begin a rigid investigation at once. With all due allowance for my inexperience, I had a suspicion that all was not well in the developing- and printing-department of the corner drug-store. At length, I mustered sufficient courage to confront the soda-candy-patent-medicine-prescription-kodak-counter clerk who scowled at me with a “well-what-do-you-want” expression on his face. Briefly, and in well-chosen language, I implied that his developing- and printing-department was not giving *my* films the attention they merited. What followed is too vitriolic to record verbatim. Suffice it to say, that I left that drug-store hurriedly, never to return.

Although, naturally, not of a morbid turn of mind, I felt crushed. No ray of light illumined my photographic horizon. Without mentioning any names, I knew several persons who had a diabolical way of asking how my last pictures turned out. Of course, I forced a smile and replied nonchalantly that really I did not know; but that I would tell them later. I knew well enough that there would be no “later” about it—it was all over, *then*.

One day, I formed a stern resolve—I would do my own developing, printing and enlarging. Corner drug-stores and their kind would realize that the little amateur was not so helpless and insignificant as they might have thought him. Without further delay, I purchased a complete developing-and-printing outfit. On the even-

ing that I returned home with my new purchase, I understood the exquisite pathos that lies in the immortal passage, “A prophet is without honor in his own country.” Pointed, caustic remarks were made by members of the family with regard to my prowess as a photographer, in general, and my ability to develop a film, in particular. The consensus of opinion was that great trouble was about to descend upon our hitherto happy household. At last, by superior lung-power I succeeded in making myself heard above the uproar. With infinite dignity and diplomacy I stated my case. At the conclusion of my account of the crushing blow administered to me at the corner drug-store, several of my immediate family wept—whether from sympathy or mirth, I have been unable to decide to this day. However, I obtained the solemn promise of all those present that they would suspend judgment until they beheld my first developed film.

In the house that we occupied, there was a particularly nice white-tiled bathroom. An operating-room at a hospital was no whiter or cleaner than our bathroom. Obviously, this was ideally suited to developing. One concession I was obliged to make in order to enjoy these exceptional facilities—a time-limit, not to exceed one-half hour, was imposed upon my exclusive occupancy of the aforesaid bathroom. With this concession asked and granted, I hurried to make the necessary preparations. According to the instruction-book, about twenty minutes sufficed to develop one film. I shut the blinds and pulled down the shade. With great care I arranged the three trays in proper order, *i.e.*, the one containing water, first; the one with the developer, second, and the tray marked *HYPO*, third. In front of the tray containing the developer, I placed the new oil darkroom-lamp. Next, I partly filled the bathtub with water, ready to receive the film after it had been cleared in the *hypo*. Then I prepared the developer and acid-fixing bath, poured each into its tray and lighted the darkroom-lamp. With film clutched tightly in my left hand, I turned out the electric light. For a moment all was pitch-black, then I gradually discerned the red light of the lamp. Just as I was about to remove the paper from the roll of film, I happened to glance toward the window—it fairly blazed with points of white light from the street-lamp



ALBION — THE WHITE WALLS OF ENGLAND
F. J. MORTIMER, F.R.P.S.



GARDEN-SCENE FROM "SECRET STRINGS"

METRO FILM CORPORATION

directly outside. Even I realized that there was too much light to be safe. With ten minutes of my precious time already gone, I had to turn out the light, unlock the door and hurry downstairs to beg for the temporary use of the couch-cover, to put over the window. By the time I had quieted the opposition thus aroused, five more minutes were gone. At length, after marring the white woodwork in my attempt to fasten the couch-cover securely over the window, I turned out the light a second time. My efforts had been crowned with success—the bathroom was absolutely light-tight.

All this time the new darkroom-lamp had been very busy. Nothing short of a volcano in active eruption can out-smell and out-smoke a new darkroom-lamp. As its chimney became heated, the enamel blistered and peeled off to the accompaniment of a strong odor of burning paint. If the wick was turned up enough to give sufficient light, the lamp smoked like a blast-furnace; if it was turned down to prevent smoking, one might as well develop in the dark. Taking it, all in all, by the time I was ready to develop my film, that bathroom was a combined boiler-room,

Standard-Oil refinery and gas-works. Beads of perspiration, due to heat and nervousness, began to gather on my forehead. Only by a mighty effort did I control my desire to postpone developing to another evening in the remote future.

Just as I grasped the film to remove the paper from it, some one pounded on the door to ask how I was getting along. So sudden was this interruption, that I made a wild jump. This caused the film to snap out of my hand and to roll as far under the bathtub as it could go. In a desperate attempt to catch the film, I ran head on into a chair which, in turn, slid against the bathtub with a crash. Needless to say, these various accidents only served to increase the interest of the person outside the bathroom-door. With a hurried assurance through the keyhole that all was going finely—which it was not—I groped about under the bathtub in search of the film. This I recovered finally, after bumping my head repeatedly on the edge of the bathtub.

At length, I proceeded to unroll the precious film from its paper-covering. A steel-spring is no more difficult to manipulate than a piece of coated celluloid before it is wet. With con-

siderable difficulty, I managed to get one end of the film into the preparatory rinsing-bath of water. By this time the lamp was smoking again like a roundhouse. Without thinking, I released one end of the film in order to turn down the lamp. As quick as lightning, the dry part of the film curled up like a pipe-stem around the part that was already wet. Snatching the film hurriedly from the water in which it lay submerged, I tried to unroll it. Wherever the dry emulsion or coating had come in contact with a piece that was wet, it stuck, and stuck hard. When I finally got the film unrolled again, large pieces of the emulsion or coating had been torn from the celluloid-base. Despite the heat of the bathroom, I turned numb and cold. With grim foreboding, I managed finally to get what remained of the film thoroughly wet. Then I transferred it to the developing-solution. In a few moments, the film lost its creamy color and finally became semi-transparent. This reaction was not according to the outline in my instruction-book. However, I was pressed for time and, gasping for breath, I continued to "develop" with feverish haste. At length, I decided to inspect the result and held the film up to the lamp. Never was there a finer piece of clear celluloid to be seen! Not even a trace of an image was visible. An intuition, not of this world, led me to look carefully at the tray containing the "developing-solution." It was marked *HYPO*! I had fixed the film before developing it. How it happened I do not know; at any rate, the fact remains that in some manner I had shifted the trays about. Without a doubt, I had a *marvelous* film to display for the judgment of my nearest of kin!

As I stood leaning heavily against the wash-stand, crushed by the disaster that had befallen me, some one knocked loudly upon the bathroom-door. Whoever it was, reminded me with some asperity that there were others in the house who might like to use the bathroom. Unexpectedly my hand slipped on the wet surface of the wash-stand and my new glass graduate fell to the floor with a crash. In my eagerness to prevent the trays from following suit, I kicked what remained of the graduate against the bathtub with a still more terrifying crash. By this time, the members of my family were mobilized outside the bathroom-door demanding instant admittance. Reluctantly, and sick at heart, I opened the door. The members of my family confronted me, and on their faces there was that which boded no good thing for me. Behind me, a clean white bathroom lay defiled by hypo-stains, soot and ill-smelling odors. A slimy piece of celluloid was all that I had to show for it all. The judg-

ment of the family was no longer suspended—it found expression then and there!

Although developing-tanks have robbed the darkroom of much of its popularity, it must be conceded that often better pictures are the result. I can remember well the storm of opposition that developing-tanks aroused in the bosoms of aspiring and dabbling amateur photographers. They maintained that if good results could not be obtained by developing in a darkroom, certainly there could be no advantage in putting the film to soak in a tank. The stock argument employed by the opposition was to the effect that over- and under-exposure could not be handled effectively by the tank-method. Without further reference to that unhappy controversy, let me state emphatically that to-day the developing-tank has met the exacting requirements of amateur and technical workers and that the photographer, who decries them, is *persona non grata*. The camerist who has the requisite darkroom, and the leisure to use it, can indulge in the darkroom-method to his heart's content. Many amateurs, of a chemical turn of mind, enjoy experimenting with different reactions fully as much as others derive their pleasure by obtaining printable negatives. Certain special films and plates must be developed in a well-equipped darkroom; but aside from these, the developing-tank meets all requirements. To-day, there are on the market developing-tanks for plates, roll-films and film-packs. The average amateur is courting trouble, if he does not use one. Their simplicity of construction, as well as usefulness and durability, can no longer be questioned.

Before leaving this subject of developing, let me recall an unfortunate but salutary experience with a developing-tank. At one time, I had even less money than I have now, and I sought ways and means "to make the camera pay for itself." A wealthy gentleman of my acquaintance bought an estate which he intended to remodel to suit himself. However, before beginning to make the contemplated changes he wished to have some pictures made of the estate as he found it. Fortunately, he decided to entrust the work to me. With marked courtesy he called for me in his limousine and we motored into the country. We spent an hour or more in and about the estate photographing each point of interest until I had used up an entire twelve-exposure film. That night, I decided to use my new developing-tank and forego the usual tedious tray-developing in my improvised darkroom beneath the cellar-stairs. With infinite care, I read every word in the instruction-book. I mixed the developer, filled the tank with it,

placed the fixing-bath beside it and began the somewhat tricky threading of the film to the red celluloid-apron, which was to protect the film from becoming light-struck in transferring it from the wooden loading-box to the tank. With the film duly threaded to the apron, I placed the light-tight lid on the box and began to wind the film and apron together. This done, I transferred the apron—now securely wound around the film—to the tank, took the time and went out on the piazza for a twenty-minute interview with my pipe. At the end of twenty minutes I returned, removed the film from the tank and began to unroll it from the apron. Imagine the

bitterness of my disappointment when I discovered that only the edges of the film had been touched by the developer! To make a harrowing tale short, I had threaded the film to the apron contrary to instructions, *i.e.*, the emulsion-side of the film—containing the pictures—lay face against the apron and the *paper backing* of the film had received the full action of the developer. The exact reverse would have been the result had I threaded the film and apron together correctly. Needless to say, a short motor-trip was all that I realized from this attempt “to make the camera pay for itself.”

(To be continued)

Stripping Negatives for Storage as Gelatine-Films

THE conditions for the supply of dryplates have naturally turned the thoughts of photographers towards methods which may be employed for returning the stipulated quota of glass whilst retaining in their possession such negatives as they judge will be of value from the viewpoint of re-orders. In ordinary times, one would not recommend as a working system the stripping of the negative film from its glass support and its preservation in the form of a thin sheet of gelatine without other support. But it can readily be understood that many studios may be so circumstanced as to find it desirable, if not necessary, to adopt such a plan as this; and therefore it may be of interest to say something on the practical means which may be adopted to this end.

The stripping of a gelatine film from its glass support is by no means a difficult business, and the process which for some years past we have regularly recommended in the “Albumen,” namely, that of Holcroft and Middleton, is one which is thoroughly reliable. But it is slow, it is not suitable for the stripping of films which are to be preserved as such, and, further, it demands the use of methylated spirit. On these three different accounts, it is not a method which can be applied usefully for the purpose now under consideration. Instead, it is necessary to employ a process in which the gelatine film is tanned thoroughly before removal from the glass; that is to say, so hardened that it can be handled and stored as a thing by itself without fear of being damaged under such reasonably careful treatment as so delicate an article requires. For this purpose, the most suitable

method is a modification of one of which very complete working-details were given some time ago by Mr. R. B. Fishenden, of the Manchester College of Technology, by whom it was worked out. In this process, the gelatine film is first hardened in a bath of formaline and then detached from the glass by means of a similar bath of formaline, but containing also hydrofluoric acid. The advantage of the process from the viewpoint of those who may require to treat considerable numbers of negatives by it, is that negatives may be treated in batches in the plain formaline bath, whereas the action of the second bath, containing hydrofluoric acid, is rapid. It should be said that we would not claim for the process a degree of reliability which may be ascribed to the Holcraft-Middleton method, meaning by “reliability” the power of the process to strip with certainty even negatives which are of considerable age, and may have become horny and hard with time. But we do not think that any inferiority in this respect need trouble photographers in the present circumstances, since from the nature of things the negatives to be treated will be those of comparatively recent date, and will not have become hard and horny with time.

The first step in the process is to cut through the gelatine film to the glass with a sharp rigid knife close to the four edges of the plate in order to cut away any emulsion coating which may be adhering to the edges of the glass. The plates are then immersed in formaline, the commercial liquid as purchased, for ten minutes or so. The formaline bath may be placed in a grooved tank, and is used best in a tank, not only on account of handling a number of plates at once, but



LAKE LOUISE, MTS. BEE-HIVE AND ST. PIRAN

CHARLES H. BAYLEY

because the vapor of the formaline can be prevented more or less from escaping by means of a lid on the tank. After this first treatment, during which the gelatine film becomes thoroughly hardened, the plates are transferred, or only so many of them as can be expeditiously handled, to a similar bath of formaline to which commercial hydrofluoric acid has been added in the proportion of two per cent.; that is to say, one-half ounce of the acid to twenty-five ounces of the bath. This second bath should be used in a vulcanite dish. It is necessary for the negative to remain in this second bath only for the matter of twenty seconds or so, after which the negative is removed from the solution, given a rinse under the tap, and the narrow edgings of gelatine then stripped off. It is then given a further short wash in order to remove traces of acid. This washing is done best in a flat dish into which a gentle stream of water is led; washing in a tank, particularly with any vigorous flow of water, is likely to disengage the film from the glass prematurely and cause many difficulties.

The negative is now in a condition to have its film removed from the glass, which is done by

laying upon it a slightly larger sheet of tough paper, such as good writing-paper, soaked previously in water. The paper is brought in firm contact with the negative by careful use of a squeegee. Undue action of the squeegee must be avoided, otherwise the negative is apt to be distorted. A corner of the paper is then raised, and a thin, pointed knife used to ensure the corresponding corner of the negative adhering to it. This being so, the paper can be removed, carrying the gelatine film with it.

In order that the film may dry without shrinking or distortion, it is necessary to have it upon a glass plate, and a supply of such plates sufficient for dealing with a batch of negatives dealt with at a time requires to be kept. These plates are cleaned and polished thoroughly with French chalk, as is done when using them for the glazing of prints. The gelatine film, still thoroughly wet and adhering to the paper, is then brought down upon a clean glass plate, and, again by means of a thin, pointed blade, the paper is removed, leaving the film upon the glass. The film then requires to be left to dry slowly. Any hurried drying is certain to lead to crinkling of the film,



OLD NED

J. HERBERT SAUNDERS

and for the same reason it is necessary to avoid drying in a place where there are irregular currents of air. The best plan is to lay the glass plates exposed to the air of a moderately warm room, the windows and doors of which are closed. Those who may have had occasion to dry the now perhaps forgotten Cristoid films, will recognize the need of this precaution, although the ordinary film of a negative is thin in comparison with that of a Cristoid film, and dries in a correspondingly lesser time and with less likelihood of distortion. When the film is perfectly dry, it is peeled off the glass, and can be kept in its then flat state by storing it where it will be subjected to a certain amount of pressure. One or two other hints may perhaps forestall any difficulties which may be found in this process. One is that negatives which may have been handled with greasy fingers should be first cleaned up by rubbing over the surface with benzine applied with a tuft of cotton. Negatives which have not been treated too heavily with retouching-medium will strip readily, and some experience with existing negatives will show what amount of retouch-

ing they may carry without leading to difficulties in stripping or necessitating the removal of the retouching before the process. In the event of negatives being required for further prints, the film-negative can, of course, be supported in the printing-frame like one on celluloid film; whereas, if it has been necessary to remove the retouching-medium (calling for further retouching) the negative will require to be soaked in a one per cent. or two per cent. solution of glycerine before being squeezed down upon a glass plate which has been flowed over with a weak solution of gum, this coating serving to hold the film to the glass, and thus making it practicable to carry out any retouching-work which could not be done readily upon the negative in its film condition.

The British Journal.

DRILL yourself in the school of "seeing" and you will have no trouble to steer clear of the sin of copying, which, besides being unfair to the other fellow, is really very unsatisfactory to yourself, in the long run.—*C. W. Christiansen.*



EDITORIAL



The Value of a Gift-Photograph

AMONG the many sources of satisfaction that accrue to the amateur photographer is his ability to distribute occasionally, among his friends, pictorial photographs representing his individual artistic skill. If he wishes to make a present of a particularly successful print—supposedly in the form of an enlargement—he will have it framed suitably and indicate, in some way, that it will not be duplicated. Thus, the gift assumes at once a distinctive character and, in the eyes of the recipient, is a gift that surpasses in interest and value any photograph that may be purchased in an art-store. There are cases where a beautiful original photograph—particularly, if produced in carbon, gum or bromoil—is valued by its owner more highly than a costly oil-painting. There can be no doubt of the justice of such an appraisal, if the photograph were a multiple gum-print by Garo or a similarly skilled artist. The case is not much different from that of a reputable painter. He has his original sketch made of some charming landscape, and from this he produces the picture which is sent to the art-dealer, who displays and finally sells it. Were the artist to paint a second picture from the original sketch, the art-dealer might decline to accept it on the ground that he does not sell duplicates. Painters of high rank rarely paint two pictures of exactly the same subject, and the purchaser of a masterpiece rightly assumes that it is the only one in existence of that particular artist. However, there are many painters that have duplicated their subjects. Gilbert Stuart is known to have painted no less than forty duplicates of his famous portrait of George Washington—the original of which is now in the Boston Museum of Fine Arts—with scarcely a perceptible variation in characterization and artistic execution. These he sold at one hundred dollars each, thereby commercializing his noble art, and giving them a permanent speculative value.

In the case of the amateur photographer, it would seem desirable that he distribute as few duplicates as possible of any one subject. The bride who finds among her wedding-presents an original and tastefully framed photographic print will prize it all the more if she knows that a replica does not exist—at least in a home that

she is likely to visit. The same is true of any discriminating art-lover who receives, as an important gift, a beautiful and original photograph intended to grace the walls of his home. The moment he discovers a replica of his picture in the office or home of another, his own prized picture loses its full value, and the sentiment associated with it diminishes. The wise amateur will keep a careful record of his distributions, so that they may not conflict in the manner described. A photographic print on which the artist has expended much enthusiastic effort, and which reflects his individual invention and artistic expression, deserves a nobler fate than that of the commercial product. It is worthy of the honor and distinction enjoyed by any genuine work of art.

The Danger of Lowering the Standard

THE necessity to curtail the consumption of food, fuel and light in every way possible, has been impressed forcibly upon every man, woman and child of this nation. In many respects this change in our daily lives has proved of undoubted benefit. There are many, too, who have practiced economy in the use of manufactured products, using cheaper materials and lowering the quality, but maintaining, if not increasing, the retail selling-price. The consumer did not demur, but accepted the greatly inferior product as a matter of course. He probably thought that, with the return to normal conditions, the quality would be improved until the former high standard had been restored. But that was not the purpose of the manufacturer. There are instances where this selfish idea was only too evident. Take, for instance, the high-class publications in the magazine-field. How many of them have deteriorated because of the conditions of the war? Most of them have maintained their high technical standard, because their publishers considered it a duty they owed to their subscribers and advertisers. Others, who were not so prudent, have lost not only in prestige, but in subscriptions and advertising. If all publishers, feeling the pinch of hard times, had yielded to the temptation to cheapen their product, that would have been different. Many of them reduced the bulk, but maintained quality and excellence.



ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.



Prizes

First Prize: Value \$10.00.

Second Prize: Value \$5.00.

Third Prize: Value \$2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, **but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.** Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. **Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.**

4. **Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print exactly for what competition it is intended.**

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with double thicknesses of **stiff corrugated board, not the flexible kind—or with thin wood-veneer.** Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—Indoor-Genres

Closed December 31, 1918

First Prize: George W. French.

Second Prize: Mrs. Charles S. Hayden.

Third Prize: Maude Paget.

Honorable Mention: H. H. Bauck, Alec Blackie, Dr. A. H. Cordier, Mrs. William Durrant, Louis A. Dyar, W. E. Fowler, Lilian A. Guernsey, Dr. McMorris Houston, C. A. Major, Juan J. Moreno, E. M. Pratt, Harry G. Phister, Myra D. Scales, C. D. Shotton, James Thomson, Hart L. Weaver, Leopold Zwarg.

Subjects for Competition—1919

"Still-Life." Closes February 28.

"The Spirit of Winter." Closes March 31.

"Rainy-Day Pictures." Closes April 30.

"The Spirit of Spring." Closes June 30.

"Miscellaneous." Closes May 31.

"Rural Scenes." Closes July 31.

"Shore-Scenes." Closes August 31.

"Outdoor-Genres." Closes September 30.

"Architectural Subjects." Closes October 31.

"Domestic Pets." Closes November 30.

"Indoor-Genres." Closes December 31.

1920

"The Spirit of Christmas." Closes January 31.



Photo-Era Prize-Cup

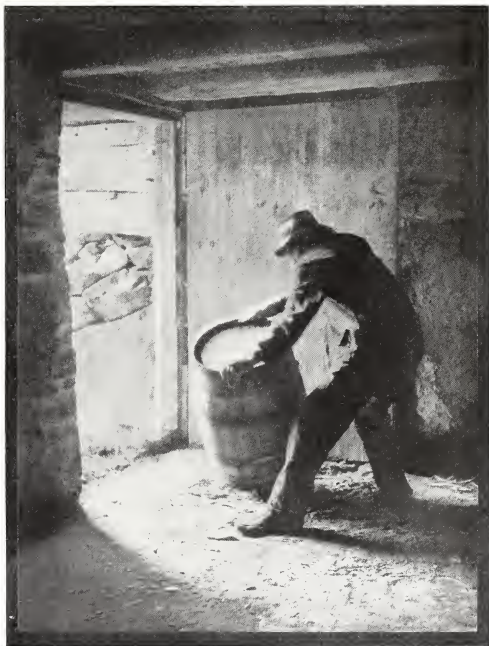
In deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize (\$10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.



Substitutes for R. & P. Shutter-Teats

PHOTOGRAPHERS in the U. S. have been unable during the last two years to obtain repairs for Thornton-Picard shutters, the soft rubber accessories of which have in most cases become hardened and useless. While the ordinary bulbs and tubing of the shops could be employed, inability to procure the little rubber teats which lift the releasing lever disabled most of these shutters. Some months ago, the writer hit upon the idea of using the small soft rubber bulbs from ordinary medicine droppers as a substitute.

McMORRIS HOUSTON, M.D.



BENDING TO THE TASK

GEORGE W. FRENCH

Advanced Competition—Rainy-Day Pictures Closes April 30, 1919

THE camerist who decided for one reason or another that the Spirit of Winter competition demanded too much physical discomfort in our northern climes can now make up for lost time. Weather-conditions for rainy-day pictures may demand an umbrella, raincoat and overshoes; but it cannot be asserted that they cause very serious physical discomfort. Properly equipped as to clothing and protection for his equipment, the camerist may set out on a rainy day and obtain pictures of remarkable technical and artistic interest. The ambitious worker will welcome the opportunity to match his wits against the vagaries of the weather. If he has been fairly successful with his snow-pictures, he will find that in the present competition his previous experience will avail him little. The problem may be the same in principle, but it is very different in practice. However, in this very diversity of subjects and problems the truly ambitious camerist finds an added incentive and pleasure.

It is obvious that a rainy-day picture is one made in the rain or under weather-conditions of heavy mist or

fog. Whether in the city, country or at the sea-shore, beautiful and unusual effects may be obtained by the skilled and observant camerist. Of first importance is the adequate protection of the photo-equipment from moisture, as the lens, shutter, bellows and all metal parts of a camera may be ruined if exposed too long to inclement weather. Particular care should be taken if pictures are made on or near salt-water. The ordinary hand-camera enables the camerist to make exposures with comparative ease from beneath an umbrella, raincoat or tarpaulin. With regard to the larger cameras on a tripod, more elaborate protection must be improvised to suit each individual subject. Often, exposures may be made from a house, barn, pier or tent. So long as the camera is protected effectually, the means employed is virtually immaterial and is governed entirely by the resourcefulness of the camerist. A lens-cap is indispensable, particularly if exposures are to be made near salt-water. Flying spray is a source of danger to the lens, unless due precautions are taken immediately before and after releasing the shutter.

It is about time that camerists in general, and those who enter this competition in particular, should en-

deavor to consign the wet-pavement-man-with-umbrella rainy-day picture to oblivion. It is all very well to call attention to the interesting reflections; but the fact remains that this theme has been very much overworked and will find small favor with the jury. However—as in all our competitions—if the exceptional comes to pass, even if it is of hackneyed origin, send it along by all means. Our jury may appear to be extremely hard to please; but after all, it is human and it admires any work that is original and the result of careful thought, no matter how time-worn its theme.

Beautiful pictorial effects may be obtained along riverbanks, the shores of lakes and the seacoast. Often, ships at anchor add immensely to the general effect because of the reflections their spars and sails cast on the water. Docks, piers and landings offer other suitable subjects. Ferry-slips, showing a ferry arriving or departing crowded with commuters on their way to work, has many possibilities. The old adage that fish bite better on a rainy day might be expressed pictorially by the lone fisherman in his flat-bottomed boat "waiting for 'em to rise." This subject was suggested a year ago, but no camerist has attempted it as far as the pictures in these competitions are concerned. Is there not some camerist who can make this popular belief live pictorially?

A rainy day in the mountains is one that the intelligent camerist should utilize to his advantage. The cloud-effects obtainable in the valleys and uplands, with here and there a rift in the clouds to heighten the effect, is material enough for a day's camera-work. Moreover, a mountain-lake is an excellent accessory if one can be found to fit suitably into the composition. It is essential that there be no doubt that it is wet weather. To portray distant hills shrouded in mist must be done carefully lest it appear that the hills are merely hidden by an early morning-fog. A bit of road dotted with mud-puddles; a farmer trudging along, protecting himself as best he can from the rain; a horse and buggy splashing along with rain beating down on the raised top—in fact, any person or object that is receiving a wetting, should be employed whenever possible to make the rainy-day picture truly convincing.

Bits of farm-life, in the course of a rainy day, offer excellent subjects. On most farms there are certain "chores" that are done when weather-conditions make work in the fields impossible. Chopping wood; sharpening scythe-blades, axes, sickles, etc.; mending harness; greasing axles and other work that is usually done in an open shed or near an open barn-door may be photographed with enough foreground to prove that it is raining outside. The observant camerist will find many other appropriate subjects in and around the farm. Not only is he in a position to obtain a good rainy-day subject, but he may chance upon an indoor-genre that will prove to be a masterpiece.

Photographing through a store-window is a feasible and comfortable way to obtain many excellent subjects. Passersby who linger a moment to look into the window make good subjects if they are selected with care. Street-scenes with traffic may also be obtained in this manner. This method has the advantage that the camera is well protected. Slight diffusion may be caused by the plate-glass window; but on a rainy day most objects are slightly diffused and this is no serious drawback. However, diffusion and distortion are not the same thing, and care should be taken to see that the thickness of the plate-glass window does not distort the subject.

Those camerists who are equipped with small pocket-

cameras are in a position to obtain many original rainy-day pictures from automobiles, street-cars, motor-busses or wagons that are moving along with traffic. From such points of vantage it is possible to catch many bits of city-life that are beyond the reach of the camerist on the sidewalk. Moreover, city-traffic is a study in itself and particularly so in inclement weather. I have in mind one trip I made on a Fifth Avenue motor-bus from Washington Square to Grant's Tomb, Riverside Drive, New York City. At the time, I lived up-town and on the day in question the rain fell in torrents. To avoid a long walk cross-town, I boarded the motor-bus. For nearly three-quarters of an hour I rode along and literally passed hundreds of rainy-day subjects—but without my camera. At every stop the small group of passengers standing in the downpour, ready to board the motor-bus made as many different subjects as the number of streets that we passed. Then, again, when the motor-bus waited at cross-streets to let traffic pass, the pedestrians in their raincoats and with upraised umbrellas would hurry by in an effort to reach the opposite side of the street. Incidentally, the traffic policemen offered many excellent subjects, clad as they were in rubber-coats and boots that shone in the drenching rain. Taken all in all, I missed an exceptional opportunity; and, yet, one that is not beyond the reach of any camerist in New York or other large city.

Since this is the second competition, "Rainy-Day Pictures" of recent years, we believe that there will be unusual activity shown to send in pictures of originality, good composition and technical excellence. Modern high-speed lenses enable the camerist to undertake rainy-day subjects with greater certainty of success than ever before. One has but to note the marvelous effects obtained in present-day motion-picture photography. Virtually no weather-condition prevents the motion-picture camera-man from obtaining technically and artistically excellent results. This success is due solely to the modern high-speed anastigmat lens. However, even those camerists who still use the older types of lenses need not hesitate to make the attempt, for there are rainy-day subjects well within reach of their lenses. The judges are well acquainted with the difficulties involved and these will be taken into due consideration. The last rainy-day competition was a pronounced success and the judges were hard put to select the prize-winners. There is no reason why this present competition should not exceed the former in popularity and photographic benefit to all concerned.

A. H. B.

Red Tones on Printing-Out Paper

A PLEASING relief from the sepia and black tones which now dominate the showcase may be obtained by using matte printing-out paper toned to a red tint. The color, although not actually that of a red-carbon, is distinct from the brown and purple tones usually obtained by gold-toning. The process used is simple and differs in no way from the separate toning and fixing with which we are all familiar; in fact, by prolonging the toning, very pleasing browns may be obtained. Glossy paper may be used, but is not so satisfactory as a rule as the matte variety. The phosphate toning-bath is recommended, and is made as follows: Phosphate of soda, 30 grains; water, 10 ozs.; chloride of gold, 1 grain. The prints are washed as usual until the milkiness disappears—four changes of water with five minutes' immersion in each are usually sufficient. They are then transferred to the toning-solution, only one

SECOND PRIZE
INDOOR-GENRES



DICKEY BIRD

MRS. CHARLES S. HAYDEN

print being toned at a time. It is a good plan to take one print and place it in a dish of clean water by the toning-bath, while the toning is done, to serve as a guide. As soon as the print in the toning-solution shows a distinct change it is put straight into the hypo-bath, which should not be stronger than two ounces to the pint, and another print toned. The toning takes only a few seconds, and it is impossible to obtain even tones if a number are toned at once. Although there is so small a quantity of gold deposited, the prints stand very well, some now over fifteen years old having shown very little deterioration. It may be well to note that the toning-solution should be made one hour before using, and that it should then be used up, as it does not keep more than a few hours.—*The British Journal*.

Window-Transparencies With Wide Margins

WINDOW-TRANSPARENCIES with wide, clear margins are very desirable for window-decorations. They enable the beholder to enjoy such a photographic positive with great convenience and added pleasure. They are produced easily. For a 5 x 7 negative, for instance, use an 8 x 10 printing-frame, into which fit, closely, a sheet of 8 x 10 heavy, clean glass. On this, place a paper-mat with an opening slightly smaller than the

5 x 7 negative, and fasten by means of paper-strips to the negative, the latter with film-side up. On top of this place the 8 x 10 transparency-plate, face down, and very carefully attach the back of the printing-frame. After development and fixation, you will have the transparency (contact) positive of the 5 x 7 negative with clear-cut edges and wide margins. If these margins are not satisfactory, as regards width or uniformity, they can be cut down very easily with a diamond glass-cutter. Naturally, the transparency should be backed with a piece of ground-glass of corresponding size, and then bound together by means of adhesive tape or, as some prefer, placed into a wooden frame of very narrow molding. If a ground-glass is not easily procurable, and one desires to practice economy, the transparency may be backed with a clear piece of glass of corresponding size, interposed by a piece of fine, white tissue paper without wrinkles or other defects.

W. A. F.

An Easy Method to Convert Metric Formulae

DESPITE the fact that the metric system of weights and measures has many advocates in the world of science, most amateur and professional photographers



CARRYING ON

MAUDE PAGET

still cling to grains and ounces instead of to minims and liters. A writer, L. T. W., in *The British Journal*, calls attention to his method to convert metric formulæ to the more familiar English system of grains and ounces. Although there are several methods of conversion in use, this writer believes that they are too complicated in most cases for the average camerist to work out easily. L. T. W.'s plan is "to reckon the 1,000 c.c.s. as 16 ozs. and multiply all the gm. quantities by 7, which plan will give the number of *grains* per 16 ozs. of solution, there being no real reason why the 1,000 c.c.s. should be reckoned as a pint of 20 ozs., as many appear to imagine; for as a matter of fact a litre is 35 ozs. and 94 minims."

"As an illustration of this 'rule of seven' plan the one-solution scalol-hydroquinone developer may be taken:

Water	1,000	c.c.s.	=	16	ozs.
Soda Sulphite Crystals	50	gm.	× 7 =	350	grs.
Scalol	2.5	gm.	× 7 =	17½	grs.
Hydroquinone	4.5	gm.	× 7 =	31½	grs.
Soda Carbonate Crystals	75	gm.	× 7 =	525	grs.
Potassium Bromide	5	gm.	× 7 =	3½	grs.

Sixteen, eight or four ozs. are quite as convenient as the more popular twenty, ten and five-oz. quantities. If, however, the worker prefers the 20-oz. lots

to the 16 ozs. given by the above system, the multiplying by seven can still be carried out, and when the figures are obtained they are simply divided by four, which gives the 4-oz. quantities, they being then multiplied by five to produce the quantities per pint."

Washing in Cold Weather

It is known that it takes longer to wash the hypo from a film of gelatine at a low temperature than at a high one. In summer-time, when the temperature of the water used for negative and print-washing is twenty or thirty degrees higher than it is in winter, the gelatine is in a condition that is altogether more porous and soft, and gives up any soluble matter in it more freely. With albumen and collodion as vehicles, it was sometimes suggested that the washing after fixing should be carried out with hot water, as this very much curtailed the operation; with gelatine this is not good.

It is well to bear in mind, however, that if warmth facilitates the washing, coldness delays it; and so, to obtain the same assurance of permanence, special attention should be given in cold weather, to make sure that the operation is complete. If there is any doubt on the point, the water draining from print or plate should be tested for hypo, by permanganate.—C. L. FITCH, in *The Amateur Photographer*.



THE CRUCIBLE

A MONTHLY DIGEST OF PHOTOGRAPHIC FACTS
With Reviews of Foreign Magazines, Progress and Investigation
Edited by A. H. BEARDSLEY



Sensitiveness of Plates While in Solutions

It is well-known that dryplates become less sensitive as soon as they are submerged in the developing-solution, and for that reason, when handled under the regular darkroom-light, permit greater freedom than is the case when they are handled in a dry state, under similar conditions. Therefore, the worker need have no anxiety that the plates will be fogged when he takes them from the developing-solution for the purpose of examination. Of course, we have to take into account the special color-sensitiveness of the plate. The Lumière Brothers have investigated the change of light-sensitiveness of plates while submerged in water, but they do not give definite figures. The loss of sensitiveness of plates, while lying in water, naturally depends upon the character of the emulsion. The decline of sensitiveness is affected little in the case of one and the same plate in the various spectral regions, but it seems to assert itself more strongly in the yellow and green. Plates that have lain in water regain their former normal sensitiveness after they have been dried.

There are times when the worker does—after having color-sensitized his plates—like to expose them in the camera while they are still moist. On the one side, there is the desire to economize in time; on the other, there may be the lack of a suitable drying-room, although too prolonged drying would be likely to affect the quality of the film.

While exposing damp or moist plates, one should consider not only the above-mentioned change of sensitiveness, but the fact that the definition of the image will be seriously impaired on account of the swollen state of the emulsion. Or the exposed plate would suffer by loss of definition on account of the swollen state of the gelatine-film.

Strip-Printing

THE method of printing bromides in strips, either "three on" or "six on," is becoming more popular than ever both for postcards and larger work. This month we propose to offer a friendly criticism of some of the methods of working that have come under our observation. The chief trouble seems to be to get all the images the same depth, and we think that in most cases it is not the fault of the assistant, but of the method. The exposing light may be so powerful that the exposure necessary is only a fraction of a second, and it becomes an easy matter to make a fifty per cent or even a hundred per cent error. The light should be screened down, or a lower candle-power light used, so that at least two or three seconds' exposure is required. The extra time so occupied would be saved by the absence of "repeats," and better all around work would result. In counting seconds, it is better to count quickly—one-two-three-four, ONE—one-two-three-four, TWO—and so on. A loud-ticking clock will serve as an accurate guide.

Another defect often encountered is the incorrect placing of a vignetted head on postcard-strips, with the result that on trimming, the head is on one side of the card. To prevent this, it is a good plan to get a waste postcard, exactly $5\frac{1}{2} \times 3\frac{1}{2}$, and cut out an oval opening

about $3\frac{1}{2} \times 2\frac{1}{4}$ in the center or a little higher. When adjusting the negative in the carrier, the cut-out postcard is placed on it, care being taken to see that the card is in the correct first "feed" mark.

Another trouble is "air-bells" in development or fixing. The chances to get these in development can be reduced to a minimum by placing the strips in the developer in pairs, back to back. We have seen many skilful assistants work this way, using the right hand to pair them, and the left hand to place them in the developer and turn them over. Up to a dozen pairs can be handled in this way, care being taken to keep them in the order in which they go into the developer and to use a plenty of solution. With the finger and thumb, it is an easy matter to pick out the bottom pair, place it at the top, and so on, removing the pairs one by one as they become fully developed. When thrown in the fixing-bath, an assistant should at once part the pairs and immerse them fully, afterwards keeping them on the move. It is true that perfect fixation is more important than thorough washing, and it is equally true that the first minute of a print's immersion in the fixing-bath is the most important, and the fixing-solution should have free access to both back and front of the print.—*Rajar, Limited.*

Strong Lantern-Slides from Thin Negatives

SOMETIMES a negative is too thin to yield a satisfactory lantern-slide by the usually accepted methods. The following means to obtain greatly increased contrast is well worth trying. The lantern-slide plate should be given a very full exposure and very thorough development, so that the lantern-slide is rather dense and black. Provided a developer that does not stain is being used, there need be no fear of over-development. The lantern-slide plate is then fixed and washed thoroughly, and finally reduced with a ferri-cyanide and hypo-reducer until the highlights are as they should be in a good lantern-slide. If the manipulations have been carried out carefully, the finished lantern-slide should have a plenty of contrast, and it may be washed and dried with every assurance of giving satisfaction on the screen.

The Radioprint

IN the photographic department at King's College Hospital the other day we saw something in the nature of a *tour de force* in photography. This was a life-size X-ray picture of the human skeleton, made direct on to sensitized paper, without the intervention of a plate, at one exposure. The exposure lasted fifteen minutes, and the subject was eight feet away from the tube. We were told that it is intended to carry out the experiment on the living subject as soon as some member of the hospital staff is found who has the patience to stand still for a quarter of an hour. The radioprint, as these direct impressions upon paper are called, to distinguish them from the X-ray negatives made on glass or celluloid, and generally intended to be printed subsequently, is coming into favor among radiographers.—*The Amateur Photographer.*



BEGINNERS' COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.

Prizes

First Prize: Value, \$2.50.

Second Prize: Value, \$1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is "*Miscellaneous*"; but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than **two** years' practical camera-activity, and whose work submitted here, is without any practical help from friend or professional expert. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from $2\frac{1}{2} \times 3\frac{1}{2}$ to and including $3\frac{1}{2} \times 5\frac{1}{2}$ inches, and enlargements up to and including 8×10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. ***Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data. Criticism on request.***

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives after he shall have received official recognition.

7. Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. ***Be sure to state on the back of every print for what contest it is intended.***

8. Competitors are requested not to send prints whose mounts exceed about 11×14 inches, unless they are packed with double thicknesses of **stiff** corrugated board—not the flexible kind, or with thin wood-veneer. Large packages may be sent by express.

Awards—Beginners' Competition

Closed December 31, 1918

No prizes awarded.

Voices of Nature and the Camera

THE mentality of the average person is susceptible to the beauties of nature in their entirety, much as a music-lover enjoys the massed effect of an orchestra composed of many instruments. However, how many persons are impressed by the solitary pine on the crest of the mountain, or by the deep-toned mellowness of the viola in a string-quartet? How many in a skating-party stop to admire the magnificent sunset as the shadows lengthen across the pond, or how many in a coasting-party note the steel-blue of the evergreens against the snow?

My point is that many of us are aware of *effects* of beauty in nature, but we do not get beyond a sort of subconscious pleasure that in no way arrests our attention or prevents our being keenly alive to the sociability of our friends. A young man goes canoeing with a party of friends and, perchance, sits down at a luncheon to be shared with his companions in a grove near the edge of the stream. All notice the bits of landscape, the water and the sparkling sunlight; but so engrossed are they in their own merriment and conversation that a pond-lily at the side of the canoe or the cry of a kingfisher creates but an impression that is dispelled immediately by the next trifling incident. During luncheon in the grove the center of interest is the refreshments, and no heed is given to the delicate flowers that have entered the sacred precincts of the sheltering grove. There is not a doubt that every member of the party is conscious of the beauty of his surroundings; but only as a pleasing effect. The small voices of nature are inaudible because of the merry laughter and lively conversation. True enough, this party of young people did not go canoeing to study nature; they went to have a good time; and, according to present-day interpretations of a good time, they got what they went for. I have no quarrel with those who enjoy canoeing-trips, picnics, sleigh-rides or motor-trips, I like these diversions, too well, myself. My object is to arouse my friends to realize more pleasure out of these very same trips by developing the faculty to see and to hear the small voices of the great out-of-doors.

Some years ago, I spent my vacations regularly with my family in the famous Berkshire Hills of western Massachusetts. No part of the United States surpasses these hills in beauty, for nature has stocked the hills and valleys with all manner of little "wild things"—birds and flowers. We occupied a simple, little frame-cottage on the side of one of these hills and spent our days in the woods and fields. We were busy from sunrise to sunset studying and learning to love Nature in all her marvelous expressions of beauty and harmony. At night, we studied the stars, listened to the whip-poor-wills and went to sleep with the night-wind sighing softly through the pines. Into this atmosphere of quiet, composure and contentment came a young lady from New York City who sought rest and recrea-

tion—mostly recreation. At the end of the first day, she remarked that she could not understand how we could spend all summer in such a “dull, uninteresting hole in the woods.” I bided my time. One of my “chores” was to go every morning to a nearby farm for milk. Along the short bit of road to the farm, I found many, many things to interest me. There were birds, chipmunks, flowers, and even an old woodchuck waddled across the road occasionally.

Several mornings later, I asked the young lady to go for the milk as I had “other work” to do. At the breakfast-table I inquired if she had observed anything of interest. “No; not a thing,” she replied. In a few days I tried the experiment again. “Do you know, there’s the cutest little chipmunk down by that old stump,” she remarked on that memorable morning, and on subsequent days she saw and heard more of Nature until a new world opened suddenly to her astonished gaze. No longer was my little home in the hills a “dull, uninteresting hole in the woods.” To-day, this same young lady is one of the cleverest and most successful amateur nature-photographers that I know. She had “eyes, but she saw not, and ears but she heard not” until that mental awakening within her enabled her to see the delights of nature. Then she turned to the camera as the one and only means to perpetuate the beauties she had learned to understand and to love.

If, for any reason, this young lady had returned to New York City during the days when she walked along the road to the farm and “saw and heard nothing,” I am convinced that a love of nature might never have been revealed to her. She needed those mornings *alone* to “find herself”; and eventually she did, much to her personal delight. It takes time to change from a form of mental desuetude to a lively, sympathetic interest in all that we see or hear; but there are comparatively few of us who have not the latent love of nature within us. Once aroused, this love of the woods, hills, birds and flowers almost compels us to use the camera to record permanently the things in nature that appeal to us. For this very reason, the relation between the voices of nature and the camera becomes indissoluble, and beautiful.

It should not be a difficult matter for the intelligent beginner to see readily the wealth of photographic material that is at hand. Even in winter, there are numberless nature-subjects that make an appeal to the heart and to one’s artistic sense. The tracks of small animals or birds in the snow, the ice-formations near a brook, the delicate tracery of frost on the window-pane and winter-landscapes offer vast possibilities to the camerist who hears the voices of nature. In summer, the photographic opportunities are legion. Nature is then in the fullness of her attractiveness; and, to us who love her, it seems inconceivable that any person with a camera can be so deaf as to fail to hear one note of the wood thrush’s vespersong or so blind as to overlook the dainty lady’s slipper in the moss at the foot of a pine.

It has been proved to my satisfaction that any amateur or professional photographer who has a love of nature gets more out of photography than the person who “sees or hears nothing.” Obviously, the fact that a song-sparrow’s song arrests my attention does not make me a better photographer; but the fact that I stop to listen draws my attention to the surroundings; and, frequently, I have found myself in a veritable pictorial fairyland. Had I not stepped off the road to listen the better to the song-sparrow, I should have walked by without knowing that such a beautiful woodland dell existed. Moreover, in such a spot there are

often flowers of rare beauty, ferns, toad-stools and mosses that may be photographed. The point is, if the camerist has his ears and eyes open, he is in the position of a discoverer, treading along amid new and beautiful scenes that he never knew existed.

It is not necessary that the beginner purchase an expensive photo-equipment. A moderate-priced box-camera and a portrait-attachment—for “close-up” nature-studies—will answer admirably until the beginner has the opportunity to acquire a more pretentious outfit. A tripod is often of service, although the ingenuity of the camerist may enable him to use stones, fences, stumps and other natural resources to attain his object. A ray-filter, particularly in photographing flowers, is of value, although not indispensable at the outset. Gradually, as the beginner develops his keenness of perception and understanding, he will know what equipment meets his requirements best. Although most cameras will answer admirably, there is a distinct advantage in having one that is equipped with a double-bellows extension. This enables the worker to obtain more satisfactory results when photographing flowers, birds’-nests, insects and mineralogical specimens. Cameras with double-bellows extension are not very expensive and repay the camerist many times by their ease of manipulation on nature-subjects. Needless to say, an anastigmat lens is a valuable asset to any photo-equipment and the beginner should work to the end that he obtains one as soon as possible. The advantages of speed, covering-power and definition should not be overlooked. Also, a good shutter is of great help to obtain properly exposed negatives. All in all, the best photo-equipment obtainable is none too good for the really ambitious nature-photographer.

Although I have confined myself to animals, birds and flowers in referring to the voices of nature, I must not omit to call attention to the great variety of insects, to reptiles, to mineralogical studies and to physical geography in general. Once the love of nature is aroused in the camerist, there is virtually no limit to his photographic activities. Whatever branch of nature-photography appeals to him, it will surely yield days, weeks, months and even years of interesting, educational and pleasant study and recreation. The great out-of-doors will no longer be a sealed book. He will have ready access to its pages; and in them he will read great and beautiful truths that will be an unfailing source of happiness and comfort to him.

A. H. B.

Negative-Development in Practice

IN spite of all that has been written and said, the *rationale* of development is a sealed book to most of photographers. Some manage to obtain a fair average of good negatives; some believe that they do so, not knowing how much better work is possible; and others frankly regard development as a sort of gamble which on one day gives a batch of thin negatives and on another a batch of dense ones.

To develop plates intelligently we must consider the nature and structure of the film. An ordinary bromide emulsion-film on everyday plates resembles in structure a macadamized road on a microscopic scale, the bits of granite being represented by minute particles of bromide of silver, and the sand or earth between them is represented by the gelatine. When light—such as the image formed by a lens—falls upon such a film a change takes place in the nature of some of the silver-particles; if the action be prolonged, all are changed in their character, while with a very short light-action

only a thin layer on the surface is affected. When such a plate is immersed in the developing-solution a further change takes place, the exposed particles of bromide of silver being decomposed, the metallic silver remaining embedded in the film while the bromine is absorbed by the developing-solution. We have thus in a negative a thick layer of particles of silver where the light-action has been intense, say a white collar in a portrait, and a thin layer where it has been weak, as in the shadows of the coat.

Now, we have to define a good negative, and this cannot be done by setting up any standard for universal acceptance. The negatives which are satisfactory to one skilled worker would be rejected by another, so that the only practical definition of a perfect negative is that it is one which gives you the kind of print you require, and the art of development consists in being able to produce such negatives with a reasonable degree of certainty. If it were always desirable to utilize the whole of the exposed particles of bromide of silver to form the final image development would become a mechanical operation: all that would be necessary would be to allow the plate to remain in the solution until this was accomplished, but such is rarely the case. To take a portrait as an example, if the whole of the silver-bromide affected by the rays coming from the face is reduced, the deposit will be too dense as compared with that formed by the rays coming from the dark clothing. Therefore, we must arrest the process before this takes place, and the problem is to find out at what stage this has to be done so as to obtain an image which will yield a satisfactory result with the particular medium we choose for printing. The usual way has been to judge the density and gradation of the image by inspection of the plate either by looking through it at the red light, by watching for the appearance of the highlights at the back of the glass, or by watching the progress of development upon the exposed surface. With considerable experience—keeping to the same brand of plates, and a uniform light in the red lamp or window—fair results are obtained; but a better plan is to develop either for a fixed time at a uniform temperature, or to adopt some form of the factorial system proposed by Mr. Watkins.

Plates vary to a great extent in their behavior in the developer. If we take two correctly exposed plates, one of ordinary rapidity and the other an extra-rapid or special-sensitive, we shall find that the former will attain density much more rapidly than the latter, so that it is impossible to develop them together in a tank or dish for the same time; we cannot judge by inspection of the back, for the image on the rapid plate will usually be clearly visible before the slow one shows a trace, although upon fixing it will prove to be far more dense; so that the only safe course is to follow the Watkins' system, and to estimate from the time taken for the image to make its first appearance the total period necessary to give the desired density. As an example, we will take an ordinary portrait-exposure for which we intend to use a pyro-soda developer. The plate is placed in the dish, and, at the moment of pouring on the solution, we commence counting seconds until we can clearly see the outline of the figure. Let us now assume that Watkins suggests a factor of eight for this developer. Therefore we give a total of eight times this number of seconds, or, to put it into actual times, if the image appears in forty-five seconds, a certain density will be attained and if upon fixing this density is approved of, similar plates may be developed for the same time and will be uniform in density, provided that the strength of the solution and the temperature remains reasonably constant. If greater density be re-

quired, a longer factor—say, ten or twelve—is taken; if thinner negatives are required a shorter one—say six.

The greatest mistake that can be made in developing is to curtail the development of an overexposed plate and to prolong it for an underexposed one. In each case exactly the contrary effect to what is desired is produced. Overexposure gives softness, so does short development; the two combined yield a flat, foggy image, in which the highlights are little thicker than the shadow-detail. If, however, the developer were allowed to reduce virtually all the silver acted on by light, the negative would be thick and muddy-looking, but the highlights would be dense and the shadows could be cleared with the ferricyanide reducer. In the case of the underexposed plate long development has the same effect on the highlights, but there is little or nothing to develop in the shadows, so that when we come to print we have nothing but "soot and white-wash." The great thing to remember is that development starts from the surface and that a thin image is quickly formed. With the overexposed negative this gets thicker all over to a certain degree, but if sufficient time be given the maximum of contrast is obtained; with the underexposed one development should be stopped before the highlights become too dense, and if the time system of development be adopted a good average result will be obtained in both cases. We once tried the experiment of exposing a spool of film on various subjects, purposely giving over- and under-exposures, and handed it to an expert in tank-development. As we anticipated, every exposure yielded a printable negative; the overexposed ones were thick and would have been slow printers, but upon reduction they appeared quite normal.

Too much importance cannot be attached to the two important factors of temperature and strength of developer. Tank-solutions are weaker than those used for dish-development, and cannot be used so long, although the latter, being more exposed to the air, are more liable to oxidize, while it is obvious that a developer made with warm water will cool quickly during development unless some precaution is taken to prevent it.—*The British Journal*.

Postcard Variations

THERE are so many variations which can be made in the production of photographic postcards that it is curious how seldom, comparatively speaking, one comes across any that are not just the usual thing. The card is laid in the frame, a postcard-size card on a postcard-size plate, and what is on the negative is allowed to print how it will, with no greater finish to its edges than the irregularity which follows from the woodwork of the frame casting a shadow.

Take the simplest variation of all, which is easiest made with a film-negative. That part of the entire negative which is to show in the picture is carefully marked off, and the negative itself is trimmed down to that with a sharp knife and a suitable guide. The negative so cut down is laid on a piece of glass, the card is carefully adjusted in position and the print made. This gives us a picture with a dark margin.

If we rule four fairly wide lines with a ruling-pen and india-ink on the negative to mark what is to be included, and take care in cutting to cut each line exactly in half, we shall have the dark margin of the picture separated from the picture itself by a white line, which has a very neat effect.

For work of this kind—in fact, for work with paper or cards that are cut to size and are not going to be

trimmed afterwards—it is most important to use a printing-frame which is a size larger than the paper. If we do not, we cannot fail to get defective edges. This frame is filled with a piece of perfectly clean glass, and the negative is laid on that. In adjusting a film-negative that has been trimmed down, as just suggested, on to the card, it will be found easiest to put the card face upwards on the back of the frame, to arrange the negative on it, and then to bring down the glass on top of that, holding all together and putting them into the frame.

Instead of the picture having a regular edge of the kind that has just been mentioned, we may give it an informal or irregular one: not, of course, mere haphazard, but which will look haphazard and yet have been thought out carefully to suit the subject. Having printed the cards, which in this case may be on bromide or gaslight paper, when they are quite dry all those parts of the image which are not to appear are carefully painted out with a reducing-solution. The ordinary ferricyanide and hypo, which should be fairly strong, will do, applying it with a brush mounted in a quill, so as to avoid the use of metal. The image should disappear immediately under the brush, and when the work has been done, the card should be washed, placed in clean hypo for a minute or so, and then well washed again.

Another way to get a good effect is to make an enlargement on glossy bromide paper, mount it carefully in the American or multiple fashion, letter the title on the mount neatly, and then make a postcard-size negative of the whole thing.

W. I. BECKETT, in *The Amateur Photographer*.

A Simple and Comfortable Shoulder-Strap

FINDING that the leather shoulder-strap provided to carry my $3\frac{1}{4} \times 5\frac{1}{2}$ camera rather cut into the flesh, I cast about for something softer to take its place. As a soldier's pack is supported by webbing, I concluded that material similar to that would be best, and this I found in an old belt; the transformation of belt into a carrying-strap being very simple. From choice, the belt should be as dark as possible in color and free of design, made of webbing, and possessing the "snake" type of fastening. All the "making" that is necessary is to substitute the ringed piece of metal that is at one end of the belt by another "snake" piece, firmly sewn on. We have now a "snake" at each end, which hooks into the ring on each side of the camera case and the shoulder-strap is complete, the length of it being regulated by the slide on the belt. Should the only belts available be of a particularly vivid hue, to wear the gray side outwards and the offending colors inwards would overcome any objection on that score.—L. A., in *A. P. and P.*

Why My Photographs Are Bad

UNDER this title, a copiously illustrated 8vo book, by Charles M. Taylor, was published several years ago. It describes and illustrates eighteen common errors in technique committed by beginners or careless workers. Any one would think that errors such as making a building appear to be falling over; a horse having a head several times normal size; a lake with the water-line running violently uphill, or two pictures made on one exposure would be things of the past. But no! Such ludicrous mistakes are committed very

frequently at the present time, and Mr. Taylor's book shows how they can be avoided, and, in addition, contains twelve full-page pictures that the author considers specimens of good photography.

This book has been virtually out of print for some time, but PHOTO-ERA has just procured the few remaining cloth-bound copies, and offers them at \$1.00 each, to be sent, postpaid, anywhere in the United States. See that your erring camera-friends mend their ways!

"Supplementary Apparatus"

MANY photographers are inclined to look with scepticism and disfavor upon the vest-pocket camera; yet there are times when such an instrument is of very real value. The fact that such apparatus is of necessity fitted with a short-focus lens, and will give good definition over many varied planes of distance, has much to commend it on certain occasions. Recently, we were looking at some negatives made with one of these cameras at some local celebrations following the signing of the armistice. The press-camera generally used had broken down, and, almost in despair, the operator borrowed a small vest-pocket camera fitted with a large-aperture anastigmat in a focusing-mount, which was used with great success. In fact, the light at the time was bad, and the lens, which was used at its full aperture *without* stopping down, gave a much greater depth of field than could possibly be obtained with a larger instrument. One of the negatives gave a very good indication of this. The subject was a procession, and the first figures were almost as sharp as those at a greater distance. The only defect was a somewhat disproportionate effect between near and the more distant figures, but upon such matters as this the average member of the public is not critical. It must not be thought that we advocate the vest-pocket camera as a universal instrument in this respect; for general work it is certainly not a competitor with larger apparatus, but in special work it has decided claims; in fact it may be regarded as a supplementary instrument of great value. In proof of this we may give a further instance. A photographer was commissioned to photograph by flashlight the gathering at a public dinner. The usual equipment was taken, and, in addition, a vest-pocket camera, focusing by scale. Just before the exposure was made the tiny camera was focused and put upon the top of the larger instrument, the same flash serving for the two. Little was expected of the small instrument, and it was amazing to find upon development that the small negative was the sharper and certainly the better of the two; and this was the negative from which the final prints—after enlargement—were made. Now that enlarging-methods are in such general use, there is little difficulty, provided the negative is of good quality, to make enlarged prints on bromide of any reasonable size.—*The British Journal*.

At the Photographic Salon

PROFESSIONAL critic (to pictorialist, whose rural picture is marred by uncertain definition, the background being quite dizzy): "I like your bucolic study, but your background is—ahem—beastly."

Pictorialist: "Thanks; and perhaps you think the cattle in the foreground are beastly, too."

Professional critic: "Oh, not at all; they are anything but that."



OUR CONTRIBUTING CRITICS



YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us, postpaid, a copy of "Pictorial Landscape Photography" by Paul Lewis Anderson, price \$1.50.

ANYONE who has done his bit at home-portraiture, appreciates the difficulties in subjects of such extreme contrast. "In Cassock and Cotta" is a hard subject rather poorly handled.

The picture-space is nicely filled, the boy well placed and carrying his part well. The wall makes an excellent background. All good points. But, why so close to the background? A short step out from the wall would not have made such objectionable shadows, even with the flashlight which was evidently used, and the sense of roundness—so sally lacking—greatly improved. The flat lighting and short exposure give the impression that the boy is tacked-out on the wall, which is further emphasized by the weak support below the edge of white. The hands were sacrificed to get texture in the cloth and the effort to save the face from like fate, too apparent. Bringing the subject out from the wall, the light more to one side, longer exposure, and being sparing of carbonate in

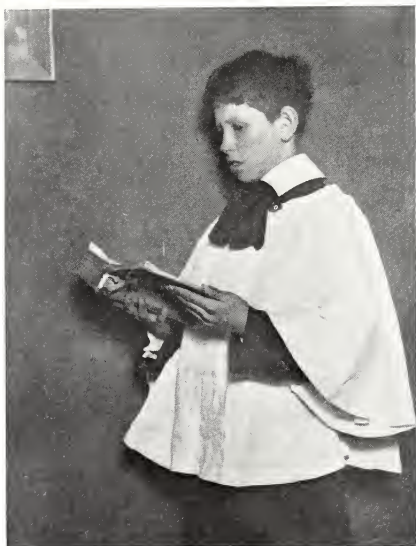
the developer, would satisfactorily repay for the trouble to try this over again.

ALEXANDER MURRAY.

This choir-boy belongs in a church; not up against a wall. He appears confused, worried, uncertain—not a becoming expression for a solo singer. In fact, I cannot believe that this boy is a singer; but rather a self-conscious boy posed in some choir-boy's clothes. The picture is too evidently a flashlight, revealed by the undesirable shadows cast upon the wall, too close behind the figure. The negative was underexposed, as evidenced by the flesh-tones being too dark; especially, the hands, also by the lack of detail in the dark cloth. The placing of the figure in the picture-space is correct, and the general pose of the figure is nearly satisfactory; but the model fails to do the part of a choir-boy. The picture is a failure, because it is not what the photographer aimed to produce.

ARTHUR A. SMITH.

THE proportion of dark and light in this picture of the young chorister is good and so far well planned; it is in the minor details where the faults lie, for in-



THE PICTURE CRITICIZED THIS MONTH

stance—but this is hardly a minor detail—he has no legs! One has the horrible impression that he is being suspended in the air, the tie being so mixed with the shadow on the wall that it might almost be his only means of support. A touch of reflected light would have much improved the drawing. And now for the details proper, the odd little light between the fingers of the right hand gives an impression of one finger missing, the sleeve of that hand, too, needs toning-down. There is not much to recommend the expression of the face, it should have been possible to choose a more kindly moment. The picture in the corner could have been omitted.

MAUDE PAGET.

The figure needs legs for support; more space is needed between the figure and the right margin; and the contrasts are a little hard. The boy's mouth would be better closed, because as now shown, the boy may be singing; but, perhaps, he is merely breathing through his mouth. It is somewhat difficult to photograph satisfactorily a person singing. The mouth changes its form from instant to instant in singing, and to catch one fixed form of the singing-mouth which shall convey the idea of a singing-mouth is difficult indeed. This photograph is fortunate to represent nothing worse than a breathing-mouth. The exposure should have been increased and the developer diluted to obtain detail in the shadows and keep detail in the highlights. A quarter-inch should be taken from the left margin and added to the right margin.

CLARENCE A. PIERCE.

ONCE I was a choir boy and I recognize the typical chorister in the youngster—unenthusiastic and untrained. On the supposition that the photographer desires to suggest church-lighting which, through much diffusion, is flat, I find nothing to criticize in the lighting. However, the print is not a picture, it is marred by lack of action. Get the boy out from the background, head up and chest out and his mouth open as though singing—holding his hymnal up to his new line of vision. The position of his left hand is unnatural—try it yourself, Mr. Reader. The torn hymnal is objectionable as it attracts attention and suggests the home rather than the well-appointed choir. Lastly, trim the print to eliminate the objectionable picture.

H. H. KINGSTON, JR.

Is the boy singing, trying to find the place, or what? If he is singing, he must be doing it through his nose, as his mouth is barely open; and his worried expression seems to indicate that he is hunting the place. When we are through wondering about this the eye jumps to the corner of a picture in the upper left-hand corner. If enough were trimmed off the left side of the print to eliminate the disturbing picture-frame the spacing would also be improved. The lower part of the boy's costume harmonizes so well with the background that he almost looks like a mannikin on a pedestal. The texture of the upper garment is well brought out; but the use of a reflector in front and a little to the left of him might have lightened his face, which appears somewhat dark.

T. R. WILEY.



OUR ILLUSTRATIONS

WILFRED A. FRENCH



WHEN John Paul Edwards, the eminent photopictorialist of Sacramento, perpetuated one of the sterner aspects of the first spring-month, he must have had in mind the poet's words,

"The stormy March has come at last,
With winds and clouds and changing skies";

for it is certainly a vivid portrayal of a tempestuous day, and one that reveals masterly skill in its interpretation. Mr. Edwards' camera-work is known already to PHOTO-ERA readers by several excellent examples—see October and November, 1918 issues of PHOTO-ERA—and words of favorable criticism have appeared in these pages, from time to time. His direct and refined method of expression is always associated with true poetic feeling, so that the beholder forms an intimate relationship with his sympathetic "mood-pictures," that yields an unusual degree of enjoyment and satisfaction. The picture decorates the front-cover and also page 129.

As the initial illustration, proper, the portrait of Jascha Heifetz, the youthful and distinguished violin-virtuoso, claims attention. In the January issue of 1918, PHOTO-ERA presented a picture of another violinist, but apparently engaged in executing an intricate passage, which was designed to illustrate the mastery of the photographer (Garó, of Boston) in managing an extremely difficult pictorial theme. Here we see the musician in repose, an attitude frequently assumed by violinists during a long pause of a performance, and yet, when the same musician faces the camera, he is generally ill at ease and the result is an awkward looking attitude—unless the photographer rises superior to the situation. In the present instance, both artists co-operated and we are favored with a perfectly natural and pleasing composition in the pyramidal form. Mr. Mishkin makes a specialty of musicians' portraits, in which branch of photography he has attained an enviable reputation. Data: professional studio; December, 5:30 P.M.; Dallmeyer portrait-lens; Cooper Hewitt light; $2\frac{1}{2}$ seconds; 8 x 10 plate; contact glossy print.

As was explained at the time, one of the pictures belonging to Mr. Kales' review of the Los Angeles Salon—printed in February PHOTO-ERA—was obliged to be omitted, for lack of space. It will be found on page 116. It is an uncommon camera-theme, an Indian woman standing near an open window of her home. The artist, Forman Hanna, has his home in Globe, Arizona, and has frequent and exceptional opportunities to picture Indians in their native surroundings. He has a predilection for soft-focus lenses, and his work is marked by a diffusion of outline that is at once rational and pleasing. The window with its interesting model is placed judiciously in this artistically balanced picture. Data: June, 9 A.M.; bright light; camera, R. B. Graflex; size, $3\frac{1}{4}$ x $4\frac{1}{4}$; lens, Protar; $7\frac{1}{2}$ -inch focus; stop, F/6.3; exposure, 1/40 second; Premo film-pack; pyro developer in tank; enlarged on Royal bromide untuned.

PHOTO-ERA has published a picture by Harold A. Taylor, of the Pacific Coast, about once every year. The subject, however, which found immediate favor wherever PHOTO-ERA was seen, appeared in PHOTO-ERA of July, 1917—an extremely realistic and beauti-

ful picture of a breaking wave. The present example of Mr. Taylor's work is a subject that is typical of the lower California Coast. The beach, laved by the waters of the Pacific, is famous for its smooth expanse, backed by low-rising ground dotted, here and there, with a hardy, twisted pine, as pictured graphically by Mr. Taylor, on page 117.

As a photographer of outdoor-subjects, Allen E. Churchill has demonstrated in these pages artistic power and versatile resourcefulness in the highest degree. Street-scenes, in particular, appeal to his discriminating judgment, and we find him as successful in the depth of winter as in the middle of summer. Everyone will appreciate the uncommon beauty and variety of his pictorial contributions, the leading picture, page 118, revealing much originality in selection. The merly technical side of his work merits the highest praise. Data:

"Calm and Serene After the Storm," Madison Square, New York; page 118; January, about noon; artistic sun; $3\frac{1}{4}$ x $4\frac{1}{4}$ Graflex; $4\frac{3}{4}$ -inch Zeiss Tessar, F/4.5; at F/11; 1/30 second; Standard Orthonon (backed); Dianol-Sulphite; $6\frac{1}{2}$ x $8\frac{1}{2}$ Azo F Hard enlargement.

"Sunshine and Shadow"; Central Park, New York; page 119; December, 4:30 P.M.; bright sun; camera and lens same as preceding; stop, F/16; W. & W. color-screen; 1/10 second; Cramer Medium Iso; developer and print same as preceding.

"Snow-Bound," Bronx Park, New York; page 119; February, 11 A.M.; bright sun; 5 x 7 tripod-camera; $9\frac{1}{2}$ -inch Zeiss Protar; at F/32; $\frac{1}{2}$ to $\frac{3}{4}$ second; Seed Ortho, Double-coated; A, B, C pyro-soda; print as preceding.

"Draped in Winter-Beauty," Madison Square Park, New York; page 120; December, 9:30 A.M.; bright and hazy; camera, lens and stop as first picture; 1/25 second; Cramer Medium Iso, backed; A, B, C pyro-soda; 5 x 7 Cyko Soft.

"Toilers facing the Blizzard," southern end of Madison Square Park, page 121; December, 8 A.M.; dull day; 4 x 5 Graflex; 7-inch Zeiss Tessar; at F/8; 1/40 second; Seed 30; A, B, C pyro-soda; 5 x 7 print, Azo F Hard.

"Equitable Building, after Fire," New York City; page 121; January, 11:30 A.M.; bright sun; $3\frac{1}{4}$ x $4\frac{1}{4}$ Graflex; $4\frac{3}{4}$ -inch Zeiss Tessar; at F/11; 1/40 second; Standard Ortho (backed); dianol-sulphite; 5 x 7 print, Azo F Hard.

The lithe form of the woman diver *par excellence*, Annette Kellermann, was seen to eminent advantage submerged in a huge glass tank, in the Hippodrome. The series of subaqueous feats performed by this remarkable swimmer was described in connection with a similar picture published in PHOTO-ERA, August, 1917. Miss Kellermann is reported to have remained under water, executing a number of graceful movements, for a period of nearly two minutes. No data have been furnished, except that the exposure was made by flash-light. The lens penetrated—as it were—first, one of the one-inch glass-plates, composing the huge tank, and then the water, before it reached the figure with limbs extended. The clearness of detail and accuracy of delineation are remarkable in the circumstances.

The article, by William S. Davis, on photographing

solar and lunar eclipses—printed in this issue—is the first practical one on an astronomical subject that has appeared in *Photo-Era* since 1903, showing how little has been done in this fascinating branch of photographic science by workers other than regular astronomical observers. The present article is the more interesting to amateurs because no special or elaborate apparatus was used by Mr. Davis. Data: "Eclipse of the Sun," made at Orient, N. Y.; page 124; June 8, 1918; 6.08 p.m. (sun-time); clear light; 4 x 5 folding view camera; back-combination of 13-inch R. R. lens; stop, F/20, effective; Ingento "A" ray-filter; 2 seconds; Standard Orthonon; M. Q.; ray-filter was smoked over lamp to reduce chance of halation; $3\frac{1}{4}$ x $3\frac{1}{4}$ enlarged print. "Partial Eclipse of the Moon"; January 7, 1898; 7.35 p.m.; clear; 4 x 5 home-made camera; back-combination of a 20-inch Ross R. R.; stop, F/56, effective; no color-screen; 3 seconds; Carbutt B 20; hydrochinone; $3\frac{1}{4}$ x $3\frac{1}{4}$ print.

The personal charm and grace of the popular comedienne, Louise Groody, has been well expressed by A. E. Johnson, page 126. In this picture, the actress appears as a member of the "Fiddlers Three" company, that had a successful run in Boston, several months ago. The original print had a number of obvious technical defects for which it is not easy to account in the absence of adequate data. Data: camera 11 x 14; Cooke lens; stop, wide open; plate, Standard Polychrome; developer, pyro; contact-print on Artura.

The scene in the National Capitol, shown on page 131, represents President Wilson addressing Congress, December 2, 1918, prior to his departure for Europe. The Democratic side of the House is seen at the left, and the Press-Gallery is just above the Vice-President and Speaker Clark. As was to be expected, every convenience was shown the photographer, as this picture had a special historical significance. The camera appears to have been placed in the gallery, and was directed downwards in order to include as much as possible of the floor of the House, and to bring the chief section of interest in the center of the plate. As flashlight was out of the question, daylight was resorted to, and the result is very satisfactory in view of a necessarily long exposure. The credit for making this important photograph belongs to Mr. A. W. Leonard, who is regularly employed by Harris & Ewing as a news-photographer. Data: December 2, 1918; daylight; 5 x 7 Graphic camera; Wollensak Velostigmat, Series II, F/4.5, used at full opening; exposure, about 3 seconds; 5 x 7 Seed Graflex plate; tray-development, pyro-soda; contact-print on Azo F Hard.

Reference to the war-photographs, pages 132 to 134, will be found in the Editor's review of the War-Prints Competition, page 132. Data:

"American Woman War-Worker," December, 11 A.M.; dull light inside; 4 x 5 Reflex Camera; B. & L. Zeiss Tessar Ic; 7-inch focus; stop, F/5; exposure, about 7 seconds; Seed 30 plate; pyro developer; contact-print Azo F Hard X.

"Leaving for Camp," September; fair light; 3A F. P. K., $3\frac{1}{4}$ x $5\frac{1}{2}$; Zeiss-Kodak F/6.3; $6\frac{1}{2}$ -inch focus; stop, F/6.3; exposure, 1/50 second; Eastman film; Eastman tank-powders; contact-print, Azo F Hard X. "Ready for Service," September, 4.30 p.m.; rest of data same as preceding picture, except tank developed with pyro.

"Children Buying Thrift-Stamps," March, 10.30 A.M.; very bright; 5 x 7 Poco camera; Goerz Dagor lens; $8\frac{1}{4}$ -inch focus; stop, F/8; exposure, 4 seconds; Stanley plate; hydrochinone developer; contact-print on Kruxo.

The pictures of F. J. Mortimer, particularly those made during the period of the present war, are invested with sentiment, and with historical or moral significance. They are also marked by action and movement; but in "Albion—The White Walls of England," page 137, there is impressive tranquility—the lofty, precipitous cliff, pictorially balanced by the aqueous expanse relieved by the lighthouse, but no sign of human or animal-life. The title, in its dignified simplicity, sets in motion a train of thought associated with the traditional security of "Proud Albion."

As *Photo-Era* readers are already familiar with the Editor's exalted opinion of Mr. Mortimer's work in pictorial photography, they are invited to read an extract from a letter sent to the Editor by a friend, who is associated with the publication of one of the finest illustrated magazines of this country, and who had an opportunity, recently, to examine a collection of Mr. Mortimer's prints.

"The photographs of Mr. Mortimer which you have been kind enough to send me for my personal examination, were received some days ago. They are very beautiful, indeed, and are wonderful examples of the work of a real artist with the camera. Some of them are so much like good paintings in composition and effect, that it requires an expert to say that they are original photographs."

I have referred frequently to the markedly artistic skill of motion-picture photographers or "cameramen," as displayed on the screen. While the cameraman is at work, another is busy making occasional "still" pictures, which are used for purposes of advertising. He uses an 8 x 10 tripod-equipment. Such a still-picture is shown on page 138. It represents a scene in the admirable photo-play, "Secret Strings," and is remarkable for the artistic arrangement of the players, and the superb setting; also for the excellent technical qualities—lens-work, lighting and perspective. Data, furnished by Mr. Smallwood, chief of the photographic department of the Metro Pictures Corporation, at Los Angeles, U. S. A., are as follows: "Secret Strings"; present scene made in the gardens of Del Mar estate, Long Island, N. Y.; artists represented are Olive Tell, as Janet Newell, and Hugh Thompson, as Hugh Maxwell, and, in background, William T. Kelley, as Arthur Newell, and John Daly Murphy, as de Giles, the millionaire; August, 1918; 2 p.m.; 8 x 10 Eastman camera; 10-inch Goerz Dagor; stop, F/11; 1 second exposure; dryplate; dev., pyro; 8 x 10 contact Artura print.

Mr. Charles H. Bayley, the author of the view of Lake Louise, page 141, is one of the comparatively few altruistic camerists who use their hobby chiefly as a means to give pleasure to others. Mr. Bayley is an ardent admirer of American mountain-scenery, and for the last twenty years he has made annual visits to one or more of our National Parks, but always accompanied by his faithful camera. His pictures reveal rare artistic discrimination and technical knowledge. In entertaining his many friends with the results of his photographic journeys, Mr. Bayley employs the ideal method of presentation—the stereopticon. The slides are colored by professional experts, according to his instructions, and are truthful and effective representations of nature. Data: 4 x 5 Auto Graflex fitted with 8-inch Cooke-Telar lens, F/7.5, giving a focus equivalent to 13 $\frac{1}{2}$ inches; Eastman roll-film; contact print.

Our "Domestic Pets" Competition, held several months ago, yielded a large number of subjects thematically attractive and artistically admirable.

(Continued on page 162)



ON THE GROUND-GLASS

WILFRED A. FRENCH



Illegible Handwriting

THE long-suffering Editor found it necessary, recently, to call attention to the careless and illegible way in which correspondents and customers sign their names to communications, and to praise the order issued by U. S. Government officials to obviate this annoying practice. In commenting on this subject, the Editor of *The Amateur Photographer* says: One of these days we shall yield to the temptation to reproduce in *fac-simile* some request for information on a photographic subject, sent us by an enquirer who does not exercise the common courtesy—no, that is too strong—who is not thoughtful enough, we prefer to say, to write his communication so that it can be read. Before now, we have had to take advantage of the special skill of one of our printers' "readers," and even then have been obliged to send his translation to the original author for the gaps to be filled up. And the worst offenders, it may be observed, are among those who, from the style of the stationery used, or the nature of the enquiry, are presumably sufficiently well endowed with this world's goods, to have had the advantages of a thorough education.

The Effect of Ultra-Hooverism

JOHN EASTLY, the well-known specialist in microphotography, was luncheoning, as usual, at the "Epicure." The proprietor, an ardent disciple of Hoover, conformed scrupulously to the regulations regarding the conservation of food, and, though his dishes were of good quality, the portions were scandalously small. In order that there might be no exception to the rule, he made the rounds of the tables, ostensibly to greet his customers. Thus, he stopped to exchange greetings with Eastly. Tactfully referring to that gentleman's well-known hobby, he asked: "I hear that you are quite an expert in microphotography. Now, would you mind telling me just what that is?" "Why, no," answered Eastly, lingering over his No. 1 Special: "Microphotography is the art of obtaining microscopic reproductions of large objects by means of the camera." "Thank you," said the Hooverizing expert; "now, could you give me an illustration?" "Of course, I can," answered Eastly promptly, pointing to the two diminutive muffins that formed a part of his order: "look at these!"

Care in Examining Thin-Leaved Albums

I MAY be called stingy, but I no longer lend books. They are either never returned, or returned in an injured condition. And thus, I am afraid, it will be with my photo-albums. I bought these books ready-made, 10 x 12 inches, in good cloth-binding. The leaves are chemically pure, of the buff, matte-surface variety, and suitable to write upon. I value them highly. But they need not be lent in order to be marred.

We had some friends at dinner, recently, and among the post-prandial amusements was the examination of my photo-albums. The one that contains views of the National Parks found particular favor—as I dis-

covered afterwards—for it had been examined with care and deliberation, page after page. The person or persons, who admired this pet album of mine, instead of carefully turning the leaves by the upper right corner, turned them at the lower edge, near the binding, with the left thumb, which, of course, caused them to tear. Thus, every leaf in the album was injured. I have gone to much pains to repair the damage done, by pasting a strip of thin paper, of the same color, on the front and back of each tear.

To prevent a recurrence of this sort of carelessness, I shall place in each album a conspicuous notice like this: "To preserve this book, please turn each leaf carefully by the upper right corner."

Refer This to the "Walrus"

SIR,—In your issue of October 30, "Onlooker" gives four methods to determine the film-side of lantern-plates while in the darkroom.

It seems astonishing to me that when referring to plates that require such delicate and clean handling as do lantern-plates, the writer should advise beginners to breathe on them and grasp them in their wet (and probably greasy) fingers.

A more satisfactory method, in my opinion, for plates or papers is to insert the extreme corner of the plate between the bared teeth, when, upon biting gently, the emulsion side is found to adhere to the teeth.

Yours, etc.,

C. W. L.

[It is possible that the photographer's teeth, as well as his hands, would be wet and greasy; whereas if his breath is of such a nature as to endanger the emulsion, we almost think that it would run fewer risks in his hands than in his mouth.—ED.]

The Amateur Photographer.

Hold Your Liberty Bonds

THE money invested in Liberty Bonds if kept so invested until peace is established will be worth much more than now.

Every provident man and woman in the United States who holds his or her Liberty Bonds may find the money so invested worth twice as much in purchasing power after the war as now. How sure and safe an investment it is, and how profitable an investment, to keep your money invested in Liberty Bonds until its purchasing power becomes greater than at present. It is a better investment than wildcat stock. It is a better use and a wiser use of your money than speculating with it.

It is a duty to your country and to yourselves and to your children to hold your Liberty Bonds. Buy more!

At the "Movies"

"Why did Maud go out; didn't she like the film?"

"Yes; but a sea-storm is coming on and Maud's an awful poor sailor."



PHOTOGRAPHIC THRIFT



Whoever sends us a letter that we consider of practical photo-saving value, will receive from us a six-month subscription to PHOTO-ERA MAGAZINE.

Practical Saving-Methods

EDITOR OF PHOTO-THRIFT DEPARTMENT:

Correct timing in printing saves paper, the use of the Acetic Acid Stop-Bath, and a considerable amount of developer, by allowing the prints to drip, especially when using 11 x 14 or larger.

Make up the print-hypo, by using but half the usual quantity, of acidifier, don't overwork the bath, save making reprints later, and use the bath for fixing negatives.

By so doing, the pyro stain image is retained, saving prolonged development to gain strength, thereby saving detail in highlights. Again, soaking in fresh print-hypo saves ferricyanide by lessening the stain and contrast when necessary. Of course, more care is necessary in washing, as the film is tender—a decided advantage in subsequent intensification. It saves time and fault-finding.

Save the discarded bath, and later extract the silver, as advocated recently in PHOTO-ERA. Used M. Q. Print developer, with a little pyro-stock added, makes a good developer for copy-negatives.

(While seemingly contrary to good practice, negatives fixed a year ago in used print-hypo exhibit no discernible change in printing-quality.)

P. W. SAUL.

EDITOR PHOTO-ERA MAGAZINE:

The envelopes that contain developing-paper usually have a stamp of the date before which the paper should be used. Usually the paper will be good for a longer time; if the paper is kept in a cool, dry place, it will keep much longer. Should the paper fog, add two or three times the normal amount of potassium bromide and lengthen the exposure. You will be agreeably surprised at the results. By means of test-strips you can easily determine the length of exposure needed for the increased bromide. The procedure is very much the same as if you change from a soft or normal paper to hard. Lengthening the exposure, however, tends to give softness in the picture and the increase of bromide gives a warmer tone. With extreme treatment, a good sepia may be obtained.

I had quite a stock of paper that was considerably past the time-limit, when I went away for a two years' leave. I packed it away in an inside closet where it should keep dry and the temperature would be even. Although water-pipes in the room, above, had been on a rampage, and there were signs of some flooding in the closet, I was able to use the paper.

I began with about four times the normal amount of bromide for the metol-hydrochinone formula. The results were pleasing; but I kept on adding more bromide and lengthening the exposure, getting warmer and warmer prints. Finally, I turned to a package that for years I had neither had the courage to try to print nor to throw into the waste-basket. I poured

in a little more bromide and where I would have exposed six to eight seconds on normal paper, I now exposed two minutes. The prints were a rich brown and turned out to be the best in the batch. I bought the paper in Heidelberg, Germany, in 1906, so it was at least twelve years old! Can you beat that for conservation?

C. O. CARLSON.

EDITOR PHOTO-ERA MAGAZINE:

The amateur who uses plates of two sizes has probably wished to cut the larger plates to fit the smaller camera in order to use up his supply of large plates before they became old. To cut plates, get a smooth flat block one-half inch thick and cover with lintless cloth, or paper, nailing a cleat across the cloth so that a plate laid on the cloth and pressed against the cleat will extend over the edge of the block with the place for the cut just at the edge of the block. Buy at any hardware store a small wheel glass-cutter. Cut a guide-block, out of quarter-inch board, of such size that when it is pressed against the cleat, the glass-cutter will run along the opposite edge just where the cut is desired. To use, lay plate with film against the cloth and press against the cleat. Lay the guide-block on the plate and press against the cleat. Make the cut with *one* firm stroke from edge to edge of the plate. Break by laying a third strip of wood on the projecting portion of the plate and pressing gently down, holding the guide-block firmly against the remainder of the plate. Cut film with a knife after the glass is broken. Practice on some old negatives until the operation can be performed easily in complete darkness. It is easy, and success is certain.

CLARENCE A. PIERCE.

EDITOR PHOTO-ERA MAGAZINE:

The use of a reducer to clear overdeveloped negatives is common enough; but I wonder how many amateurs throw a slightly darkened print on bromide or developing-paper into the waste-basket when it might be saved easily by a few moments' work. Although not a remedy for spoilt prints, it often happens that otherwise good prints seem to have a slightly dull-gray appearance—most noticeable in the lighter parts—which may be due to several causes. A lack of enough bromide in the developer; or forcing of development might cause gray tones. In other cases, some part may be a bit too dark, or a light tone needs to be brightened to give accent to the rest. In any case, a very weak solution of the well-known hypo and potassium-ferricyanide reducer will do the work. For this purpose take a solution of plain hypo and water, about one to ten, and when ready to use add a few drops of potassium-ferricyanide solution, which may be kept in the dark as a stock-solution,—one to ten is a convenient strength. The prints need only be rinsed once or twice after taking from the fixing-bath before this clearing-bath is used. For general clearing, immerse prints in the solution; but for local work place on a sheet of glass, blot off surplus water and apply solution with a mop of absorbent-cotton or a camel-hair brush. Afterward, wash as usual.

WILLIAM S. DAVIS.



ANSWERS TO QUERIES



C. J. K.—Mildew on a lens, due to the long storage of the camera in a damp place, may be cleaned off by rubbing the lens-surfaces gently with a tuft of cotton dipped in alcohol or pure water. If this does not remove the mildew, it is then imperative to return the lens to the maker for attention. In no circumstances, attempt to remove the "mold" yourself. If the "mold" is shown to be a deterioration of the glass, it is likely to prove a very expensive matter to make the lens right again.

W. A. Y.—To copy pen-and-ink sketches successfully and to obtain the maximum density and clear lines, it is best to use a slow plate—preferably one known as a process-plate. Full exposure and very full development should be given in every case. Should you get full density but the lines appear fogged, the addition of a little potassium bromide to the developer—without altering the exposure—will be of benefit.

A. O. T.—To block out skies means to render the sky-portion of a negative perfectly opaque, so that when printed the sky remains white and other parts of the negative print out as desired. It is then possible, by covering up the landscape, to print in a cloud-effect from another negative. To block out the sky requires great care, particularly if the skyline of the landscape is broken. A soft ball-pointed pen and liquid india-ink is best for the purpose, although a sable-brush and opaque water-color paint might do as well. On the film-side of the negative, follow the outline carefully with your pen or brush until a thick line on opaque ink or color is traced. Then, with a larger brush expand the outline into the sky for about a quarter of an inch. The landscape will then be outlined on the skyline with an opaque band. The rest of the blocking out can be done on the glass-side of the negative; either with opaque paint laid on heavily and overlapping the line on the film-side or with a piece of opaque paper cut to shape and pasted on the glass.

C. H. F.—With regard to home-made pan-chromatic plates there is a formula, given by a Professor Namias, which might be of interest in connection with your experiments. The formula is as follows: Ethyl violet, 3 grains; erythrosine, $1\frac{1}{2}$ grains; pure alcohol, $3\frac{1}{2}$ ounces; distilled water, $3\frac{1}{2}$ ounces. For use, take 2 drams of this solution, $\frac{1}{2}$ dram of strong ammonia and $1\frac{1}{4}$ ounces of distilled water. Plates of medium rapidity are bathed for three minutes, then washed for three minutes and finally dried rapidly in a warm and totally dark room. Plates thus prepared do not keep very long after bathing and should be used with a suitable color-filter and developed in the dark. Any darkroom-light—no matter how "safe" it may be—will ruin the plates at once.

W. M. T.—Plateholders not in register with the ground-glass is a frequent cause of blurry negatives. You state that when you "stop down" the picture is reasonably sharp; but when you use a large aperture the picture is "fuzzy," even though it appeared sharp on the ground-glass. Frequently, amateurs fail to see to it that the ground-side of the ground-glass faces the lens. If the shiny side is toward the lens this would account for your trouble at once. Remember that the ground side of the ground-glass and the emul-

sion-side of the dryplate must come to exactly the same position behind the lens in order to register. Unless both coincide the image will be out of focus. Sometimes, it is the focusing-scale that needs to be examined carefully. However, the register of ground-glass and dryplate in the plateholder is of the greatest importance and should receive the immediate attention of a competent camera-repair man.

F. A. K.—Traveling Photographers are disappearing from our cities and rural districts. We would not advise you to begin your photographic career by traveling about photographing residents or such other subjects as you might find. Moreover, we are fairly certain that it would be virtually impossible for you to average twenty-five dollars a week from such work. On the other hand, if you establish yourself in a small community and win work and friends by your personal merit and skill with a camera, we believe that you will do much better in the end. For the work you contemplate to do, we think that the 5×7 size is preferable to 4×5 . Postcards may be made from a 5×7 negative as easily as from a 4×5 by using the proper masks or by careful spacing.

R. W. T.—The best photographic school to meet your particular requirements is the New York Institute of Photography, 141 West 36th Street, New York City. There you may obtain thorough instruction in retouching, developing, operating and motion-picture work. Since you are a disabled and honorably discharged photographer of the U. S. Air Service you will obtain a special rate for any course of study that you decide to take.

T. H.—The best light to use when developing orthochromatic plates is one that is positively free of any actinic light. Sometimes a cheap darkroom-lamp will have a red glass in it that is very far from being safe to use with any dryplate. A darkroom-lamp such as is advertised by reliable dealers is usually reasonably safe, although it is well to make careful tests before risking the loss of a valuable negative. The Wratten Safe-Lights are thoroughly dependable and likewise any other darkroom-illumination made scientifically by a well-known photo-dealer or manufacturer. During development it is advisable to refrain as much as possible from too frequent examination of the plate. The modern orthochromatic plate has so much latitude that with reasonable precaution you need fear no trouble.

G. G.—The selection of a reflecting-camera at the present time is rather difficult since you say that certain imported models interest you. Conditions are still too chaotic to permit importers to obtain cameras from France and England with any degree of certainty. If you can wait a few months we believe that you will be able to inspect many types of the best imported reflecting-cameras. However, if you need a camera at once it might be advisable to correspond with any of the dealers advertising in PHOTO-ERA who carry foreign equipments. If you desire a new equipment, there is no reflecting-camera that has stood the test any better than the well-known Graflex. In our opinion you can do no better, unless you can wait until later to select an imported equipment.



EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions
and Conventions are solicited for publication



British Optical Glass

IN view of many misleading statements regarding the actual manufacture and supply in this country of optical glass (of which there are several hundred varieties), it is interesting to note how the subject is handled in England, according to an editorial in *The Amateur Photographer*, of December 25, 1918: "We have heard so much of the dependence of the British lens makers upon Germany for their supplies of optical glass, that it is particularly gratifying to note Mr. Kellaway's recent announcement upon the present position of the industry in this country. The output, he tells us, has increased since the war began to not less than twenty times what it was, and we are now entirely self-supporting; in fact, the manufacture here has developed to such a point that it is in excess of what can be absorbed in time of peace, even under the most favorable conditions. As in pre-war days, British-made optical glass supplied only about ten per cent of the country's requirements, sixty per cent coming from Germany and Austria, and thirty per cent from France; it will be seen how great has been the increase in the home production. We are glad to learn on very high authority also that the optical glass now being produced in Britain compares most favorably in quality with that heretofore imported; a remark which applies in particular to the heavy barium glasses, which are the most difficult of all to manufacture, and for which we formerly relied entirely upon outside sources."

German Bombs Fall Near British Journal

EDITORIALLY *The British Journal of Photography* has this to say about a narrow escape from serious damage to its offices in one of the many German air-raids over England: "With the publication of the official report on the air-raids on London, it is now permissible for us to refer to the incident of October 13, 1915, when two bombs from an enemy-airship fell, one immediately to the rear of the 'British Journal' offices and the other in the middle of the street nearly opposite the front of the building. The force of the explosion shattered and blew in all the windows and did some other minor damage, but fortunately no life was lost. It was late in the evening, the edition for the week had—in newspaper-language—'been put to bed' (forms closed), the staff had gone home, and the caretaker and his wife, who, by a piece of luck, were in the rear part of the building, suffered only the mental shock of the two successive explosions from the effects of which they have not completely recovered even now. In a later air-plane night-raid, in which part of Covent Garden Market suffered, some slight damage was again done to our offices. The souvenirs, in the form of twisted metal and splintered wood, which have been preserved from these assaults, are not necessary to keep in our minds the sense of loathing for the nation by whom these acts of murder were planned. We do not disguise from ourselves that they were kindness in comparison with scores of others committed according to plan during the war." We are glad, indeed, that our British cotemporary suffered no greater damage during those stirring days.

W. H. Rabe

It is with deep regret that we record the death of W. H. Rabe of San Francisco, Cal., on January 3, 1919. For thirty-five years Mr. Rabe has been an enthusiastic photographer and for many years a member of



W. H. RABE

the California Camera Club. During the last five years, he has won recognition from Salons and photographic exhibitions for his beautiful pictorial work. In the pages of *Puoro-Era* for the past few years may be found many striking examples of Mr. Rabe's architectural studies of the San Francisco (Panama-Pacific) Exposition in 1915.

Newark Camera Club, Inc.

WE are informed by Mr. Louis F. Bucher, secretary of the Newark Camera Club, Inc., that his club is to offer a sterling-silver medallion and a bronze medallion to the two camera-clubs submitting the best sets of slides to his club. Further particulars may be had from the secretary, 878 Broad St., Newark, N. J., who will be pleased to answer all correspondence.

Students Returning to Bissell Colleges

ALTHOUGH the war depleted the ranks of students of the Bissell Colleges, Effingham, Ill., President Bissell informs us that many of the old students are returning to complete their courses of study. The present rapid rate of demobilization has enabled several soldiers to resume their study of photography. Among these are Lieut. I. Snodgrass, Oscar Brindley of Coleman, Alberta, Canada, D. T. Hyde of Greenville, Sask., Canada, and Thomas F. Dillon of Philadelphia. Harry Burke, of Chicago, is one of the new students and has been identified with Burke & James, Inc., Chicago. Even China is represented by Lin Wa Sun, of Hong Kong. There is every indication, based on enrollments, that 1919 will be one of the best years in the history of the colleges.

War-Memorials

In a recent issue of *The Amateur Photographer* appears an editorial with regard to war-memorials that goes on to say that it is only too evident that, taken in the mass, the British nation is not artistic. That it has produced great artists no one would deny; but there exists throughout the mass of the people no such feeling for art as characterizes the French, for instance, or, still more, the Japanese. Art plays little or no part in the national life, and there is nothing approaching a general recognition of its value. It has been suggested that there might be worse ways to commemorate the great war than by the demolition of some notorious public-monuments; but what will be done, it is to be feared, will be to erect still more, and possibly still worse, memorials in the cities and towns of the kingdom. Whether we shall ever awake to the importance of art in the scheme of life is doubtful. There are few signs of it. There is no authoritative body or institution in the country to which to look for guidance. The Royal Academy is regarded by some as taking that position; but its members and its governing body seem to consider it as a private concern, existing to study the interests of the individuals of which it is composed; in fact, a co-operative association designed primarily for the sale of its members' paintings.

Our Illustrations

(Continued from page 157)

For proof, the reader is respectfully referred to the prize-pictures published in the February issue. A few of the Honorable Mentions will be shown occasionally in PHOTO-ERA, beginning with the current issue. A young girl fondling a pet donkey is the subject of a successful composition by J. H. Saunders, of England, reproduced on page 142. One admires the soft lighting, the tonal values and the contrast in expression. The rules of art have been well observed, for there is no lack of unity and harmony. No data.

Advanced Workers' Competition

AMONG the consistent participants in these competitions is George W. French. His progress and success have been fluctuating. His first recognition was an Honorable Mention in the Beginners' Competition, March, 1917, followed immediately by the third prize, four Honorable Mentions and the first prize (November, 1917). Eliminated thus from the Beginners' Compe-

titions, Mr. French entered the Advanced Workers' class, winning successively four Honorable Mentions, the third prize in "Rainy-Day Pictures," and by a *tour de force*, the highest award, page 145. Mr. French—who, by the way, is no relation of the Editor—is an assiduous worker and student, and very happy in his figure-compositions. While his efforts in this popular form of pictorial activity show a spontaneity of design they do not suggest the existence of a forceful originality. It was, therefore, as a pleasant surprise, that his "Bending to the Task" met the gaze of the jury, who regarded it as one of the best genres sent to this class of competitions for many years. The picture is an inspiration in motive, design and execution. In action, chiaroscuro and treatment—and I do not hesitate to say it—Mr. French's picture suggests the work of Jean François Millet! Having suddenly come into prominence, Mr. French will no doubt see to it that his entries in picture competitions will be characterized by equal pictorial merit. Data: August, 1 P.M.; strong light; camera, Anso 3; size, $2\frac{1}{4} \times 3\frac{3}{4}$; lens, Anso Anastigmat; 4-inch focus; stop, 4/6.3; exposure, 7 seconds and flashlight; Eastman film; pyro developer; enlarged on Royal bromide.

In Mrs. Charles S. Hayden's attractive and well-ordered composition, page 147, one is glad to note the absence of objectionable shortcomings common in interiors of this kind, viz. halation, promiscuous highlights, linear distortion and underexposure. But Mrs. Hayden is a careful and experienced worker, and the present picture is a credit to her skill. Data: August, noon; bright day; $6\frac{1}{2} \times 8\frac{1}{2}$ camera; Wollensak portrait-lens; stop, wide open; exposure, about 2 seconds; contact-print on Willis and Clements Y Y Sepia.

Man's work is woman's work, or, the husband in the war, the wife to the rescue, and thus we have the solution of a domestic problem pictured for us, page 148, by an observant camerist—woman again. It has been cold this winter, away up in Canada, and the home-fires had to be kept burning. The stress of circumstances is well expressed by the hastily dressed worker. The action is real—no need to pose. The entire scene forms a capital pictorial theme, and incidentally is in strong contrast to Mrs. Hayden's cheerful living-room, on the preceding page. Data: December, 10 P.M.; flashlight; camera, 5 x 7 Seneca; lens, Zeiss Ie Tessar; $7\frac{1}{2}$ -inch focus; stop, F/4.5; exposure, 3 seconds and flashlight; plate, Royal Extra Fast; developer, Monomet and Hydrochinone; contact-print on Studio Cyko; same developer.

Our Contributing Critics

THE picture offered this month to our contributing critics for consideration is "Polly, Do You Love Me?" by Ethel Dismukes. To assist at a better understanding of the composition, the following data are supplied: November, 1 P.M.; diffuse light; 5 x 7 R. O. C. view-camera; Bausch and Lomb lens; 9-inch focus; stop, wide open; exposure, $1\frac{1}{2}$ second; plate Seed 30; developed in tank; print on Azo F Hard.



A Doubtful Compliment

MISS PASSAY—"What do you think of my latest photograph?"

MISS YOUNG—"Splendid! Isn't it wonderful what they can do!"



LONDON LETTER

CARINE AND WILL CADBY



THERE is a strong reaction all around in favor of color. We have had over four years of black and khaki and, at last, there is a perfect revulsion of feeling against somberness and a craving for really vivid colors. This general attitude of mind is reacting on photography, and many photographers are tempted to forsake their old black-and-white work and try their skill with colors.

A short time ago, Miss Agnes Warburg showed us some examples of her Bromoil-Transfer-ColloTYPE which she calls, "War-Type." According to her, this process is simplicity itself. She gave a description of it in *The British Journal of Photography*, a month or two ago; but to us it seemed alarmingly intricate and its chances of success depended on the photographer not only being a most precise and accurate worker, but a very industrious one as well. No doubt our opinion was influenced by the fact that only the quick and the slap-dash can appeal to busy people. Now, with peaceful days in sight, one expects to have more leisure for the gentle art of photography, and Miss Warburg's examples certainly suggest that it is worth while to give a little thought and time to the process.

We were at a very interesting photographic entertainment last week. A neighbor of ours, who has been very successful with autochrome-work, gave an exhibition on the screen of some of his best slides. We had already seen some of the original plates and had been astonished at the amount of color he had been able to get out of English landscapes and figures. But to see autochromes to real advantage, they should be shown on a screen, and we were able to enjoy these a good deal more in their enlarged form. They were mostly autumn-subjects, with deep, rich reds and vivid, translucent yellows. One saw in them how much the management of sunshine and lighting altogether had to say in the matter of making them a success. Our neighbor had used sunshine cleverly and with restraint. One of his most successful subjects was a portrait of a fair girl with bent head leaning against a door. A ray of sun had caught the curve of the coil of her hair and turned it into burnished gold. It was much more emphatic than a more liberal use of sunshine would have been.

As we came away, it seemed that there was something missing. We realized that the war had stopped, and what we missed was "a silver collection for the Red Cross"!

Greatly daring, we venture to point out a slight inaccuracy in the December issue of *PICTO-ERA* which might lead to misunderstandings with future exhibitors from across the water, who are thinking of sending to the London Salon. A. H. B., in his interesting and stimulating article in the department "With The Trade," discussing the admiration of the English for the American exhibits at last year's London Salon, goes on to say:—"Why should not manufacturers be proud of the fact that the *first prize* picture in a world-famous photographic salon was made on their film, plate, paper, or developed with their developer?" Now, if in this remark A. H. B. had the London Salon in mind, it is important to observe that this institution has always abstained from the practice of giving any sort of prizes or medals of recognition. The idea has

been that the simple fact of a picture being accepted and hung was recognition and honor enough. And it is just in this particular point that the London Salon differs from the "Royal" and other big shows. Certainly, there have grown up with long use of the same gallery specially favored positions on particular walls, where pictures of especial merit may find a place. The forerunner of the present Salon, the Linked Ring, once issued a commemorative plaque executed by Mr. Emanuel. This was at its tenth annual exhibition, in 1909, and a copy was presented to each exhibitor. It is a fine oblong design in bronze of Elizabethan sailing-ships, ten of which may be discovered as representing the number of annual shows held. This plaque, which is now quite rare, is much prized, because it is the only instance in the long life of the Salon when any kind of commemorative issue was made.

There can be little doubt that the most "bephotographed" person, in all time and up to the present, is President Wilson. On his recent visit to London, cameras of all sorts, from the vest-pocket to the kinema-apparatus, were in evidence everywhere on his route, literally in thousands. And on this auspicious occasion all the work did not fall on English photographers, for the President's countrymen were in evidence, everywhere. As one reporter voiced it: "Downing Street was made notable by America, America with the camera, all sorts of cameras, and a determined passion to get the best possible focus of anything that came along." But quite apart from the official photographs of the procession, there should be many and interesting records of much, taken by the man in the crowd, both American and English, of real historical value. During the procession, the big pediment near Pall Mall East had (quite correctly) a statue-group of photographers on it, for it was near the home of pictorial photography, while in the porch of the National Gallery undaunted American kinematographers had set up their instruments. Through all the streets of the route there was the same story. People, not by the many but by the multitude, formed an army of occupation along the processional way, and an appreciable proportion of them were busy with cameras. No doubt that in after years their photographic efforts on this important occasion will become immensely valuable.

We have received an intimation from the War Office to the effect that from the 6th of January it will no longer be necessary to submit articles for America to the Censor; but, as another paragraph states that "Holders of permits marked 'D' (followed by a serial number) are advised in their own interests to continue their present practice of sending matter for publication abroad to the Chief Postal Censor," we must continue to submit these letters to the authorities at Strand House, as ours is a "D" permit. And so, gradually, very gradually, will Photography cast itself free from war-time restrictions, and we shall, presumably and at some dim future date, be able to communicate without let or hindrance with our American friends. [It is interesting to record that during all the time, January, 1912 to February, 1919—including the war—that our genial and faithful correspondents have sent us a monthly letter, the censor has not obliterated as much as one single word.—EDITOR.]



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

PUPPIES AND KITTENS. By Carine Cadby. Illustrated with 39 photographs by Will Cadby. 112 pages. Price, cloth 2/6 net; in the United States, \$1.50, postpaid. London: Mills & Boon, Ltd. Copies may be procured through PHOTO-ERA at \$1.50 each postpaid, in the United States and Canada.

If there is a book which, by word and picture, can captivate a child to the exclusion of all else, and exert a similar effect upon an adult, by virtue of the combined genius of two eminently gifted persons, such a one is "Puppies and Kittens," by the Cadbys. The little book is a series of illustrated animal-chats—spontaneous, artless and logical, that make an instantaneous appeal to the child's imagination, and hold its attention till the last word is told, with a longing for more. These quaint, little episodes are instructive, too, but without an obvious effort. The pictures are marvels of spontaneously happy interpretations of the text. The various groupings are masterpieces of composition—so felicitous, ingenuous and irresistibly expressive. They reveal convincingly the exercise of uncommon skill, ingenuity and patience. In their typically amusing attitudes, the little creatures appear to be endowed with almost human intelligence. Indeed, it seems as if Mr. Cadby were right in his element, although he has achieved distinction in bigger things.

The book consists of four chapters devoted, separately, to puppies, kittens, chickens and spiders' webs, the illustrations of the last being of exceptional beauty. A copy of this delightful little volume should be in every home where there is a child. It will prove its value a hundred times in joy and happiness.

The Critic

He looked at the "lines"
and the "masses";

I saw the brook
and the grasses.

He saw the picture;

I saw the place.

He saw the "balance";

I felt the grace.

Into the vastness

I drifted;

I sensed the cool

of the glade

Canopied rich

with verdure—

Pictured myself

in the shade.

Who got the *joy* of the image,

He that saw "nuance" and "tone,"

Or I, that sat in the quiet,

Who had made the picture *my own*?

—Milton McKee Bitter.



FROM "PUPPIES AND KITTENS" BY THE CADBYS

Copy, Duplicate, Replica

A *copy* is as nearly like the original as the copyist has power to make it; a *duplicate* is exactly like the original; a carbon *copy* of a typewritten document must be a *duplicate*; we may have an inaccurate *copy*, but never an inaccurate *duplicate*. A *facsimile* is like the original in appearance; a *duplicate* is the same as the original in substance and effect; a *facsimile* of the Declaration of Independence is not a *duplicate*. A *facsimile* of a key might be quite useless; a *duplicate* will open the lock. An *imitation* is always thought of as inferior to the original; as, an *imitation* of Milton. A *replica* is a *copy* of a work of art by the maker of the original. A *duplicate* is really an original, containing the same provisions and signed by the same persons, so that it may have in all respects the same force and effect. A *copy* is a *reproduction* of an original, or even of a reproduction of an original, but not necessarily of the same size, nor retaining all the good or bad qualities of the object copied. Thus, there are good, bad and indifferent *copies* of the Venus de Milo, in bronze, marble and alabaster, the original being of marble. There are also *copies* of photographs, ranging in quality according to the skill of the copyist, and may be printed in any size or in any medium. A *reproduction* is the same as a *copy*, and may be executed in the form of a photograph, photogravure or halftone.



"Is the old camera-club they used to have in this town, defunct?"

"Laws, no, sir; it's been dead these ten years."



RECENT PHOTO-PATENTS

Reported by NORMAN T. WHITAKER



THE following patents are reported expressly for PHOTO-ERA MAGAZINE from the patent-law offices of Norman T. Whitaker, Whitaker Building, Washington, D. C., from whom copies of any one of the patents may be obtained by sending fifteen cents in stamps.

A New Method of Ascertaining the Combination of Stops for the Production of Halftone-Dot Negatives with a Process-Camera has been patented by Fletcher Douthitt, of Detroit, Mich.; patent, number 1,289,129.

Patent, number 1,289,256, Means to Prevent Double-Exposures, has been granted to Richard C. Peterson, Malden, Wash.

Alfred Andrews, of Barnesville, O., has been granted patent, number 1,289,357, A Multiple-Exposure Attachment for Cameras.

Patent, number 1,289,088, A Finder has been invented by Joseph Becker, of Washington, D. C., assignor to Eastman Kodak Company of Rochester, N. Y.

A Spotting-Mount for Camera-Dissolve Apparatus has been invented by Ethan Allen Fritz, of San Francisco. Patent, number 1,288,555.

Patent, number 1,288,753, Photographic Printing-Process, patent issued to John Edward Thornton, West Hampstead, London, England, assignor to John Owden O'Brien, Manchester, England.

John V. McAdam, Hastings-upon-Hudson, and Charles J. Everett, New York, N. Y., have invented a Photographic Printing-Machine, patent, number 1,288,077, assignors to Revolute Machine Company, New York, N. Y., a corporation of New York.

Patent, number 1,288,078, Film-Shifter for Cameras, has been granted to Charles H. McClain and Daniel L. Buren, of Bremerton, Wash.

Carl W. Schmidt, of Piedmont, California, has invented an Autographic Attachment for Cameras. Patent, number 1,288,221, assignor to Ansco Company, Binghamton, N. Y.

Patent, number 1,288,403, has been issued to William F. Garland, New York, N. Y., on a Photographic Developing-Apparatus.

Irvin M. Kelly, of Laconia, N. H., has received patent, number 1,286,341, for Photographic Film.

Patent, number 1,286,708, on a Camera, has been granted to Alexander C. Milbrath, of Milwaukee, Wis.

Adolph Stuber, of Rochester, N. Y., has invented a Camera, patent, number 1,286,892, assignor to Eastman Kodak Company of Rochester, New York.

A Toning-Process and Product. Patent, number 1,286,890, invented by Edmund R. Bullock, of Rochester, N. Y., assignor to Eastman Kodak Company.

Obtaining the Best from Underexposure

WE are inclined to think that many photographers, when developing plates that are known to have been badly underexposed through circumstances over which they had no control, give too little time to the operation. Of course, if the negatives are required for press-work the method which we describe below is not practicable on account of the long time taken. But in other circumstances, when a few hours do not

greatly matter, we can recommend a trial of it. We do not claim that the procedure is a new one; but as the result of our own experience it is of very considerable value, and either entirely unknown or overlooked by most photographers. Recently, we exposed two plates of the non-screen ortho variety upon the same subject at exactly the same time, giving both the same exposure, which by a meter was only about a fifth what it should have been to obtain the minimum correct exposure. These two plates were developed side by side in the same dish, using the time-method, and the ordinary pyro-soda formula. When development had apparently come to a standstill, one plate was taken out and fixed, and the other was left in the solution after dilution with about six times its own bulk of water. The dish was covered with a sheet of card and put aside for about an hour and a half. The negative was then placed in a dish of plain water covered as before, and left until the next morning, when it was fixed and washed. Those two negatives, when examined side by side, amply justified the procedure. The first plate was weak, lacking in both tonal quality and shadow-detail; the second, though slightly pyro-stained, was of good printing-quality, nor was there any tendency towards "grain," which would certainly have been the case if development had been unduly forced.

The British Journal.

An Eight-Day Exposure

THE authorities at Bristol seem rather chary to give way to the photographer overmuch. Thus, in a building which serves as the private chapel of the Mayor and Corporation, permission to photograph was forthcoming; but it was forbidden to use flashlight or any artificial illuminant. Thereupon Mr. Horton obtained a mandate that the chapel should be undisturbed during the time required for the exposure; and setting his camera up at eight o'clock on a Monday morning he completed the exposure on the evening of the following Monday, thus the lens was open at its fullest aperture for eight days. The result on an orthochromatic plate was excellent in detail, but rather more suggestive of a rich and warm effect than the actual interior warrants.—*The Amateur Photographer.*

In a Darkroom

O CREAMY plate fast darkening in the tray,
Thou holdst the sunlight of a sunny day,
Thy color deepens where her dress was white,
Thy image sobers while her own grows bright.

Now where her smile was, can I catch a trace,
And shadows gather till they form her face;
Her wealth of hair but faint appears—
Is white, in prophecy of honored years.

O happy grain that tak'st thy seed from light,
Bring forth thy fruit to yearning love's keen sight,
And thou shalt be a mother proud to see
The host of beauties I shall print from thee.

THOMAS F. LYNCH.



WITH THE TRADE



The German Boycott of Enemy-Goods

IN one of the recent issues of the *Photographische Rundschau*, received through the courtesy of one of our subscribers in Sweden, we found an insert printed on pink paper that proved to be a bargain-list issued by the largest photo-supply house in Berlin. Among several hundred cameras, lenses and accessories listed there was one item of one hundred *Kodak Albums* and another of two hundred *Ensignette* roll-films. It is apparent that, despite the attempted Kodak boycott launched in October, 1917, and described fully in June, 1918, *Photo-Era*, German photographic supply-houses are willing to sell openly "the products of an enemy-industry." Of particular interest is the fact that the two items mentioned were the *only* ones to be set in bold-face type with a heavy black rule around each to help catch the eye.

High Prices

THERE is no question that prices in general are high in the photographic industry. There is a certain amount of constructive criticism but more destructive criticism by dealers who seem to be of the opinion that prices should drop at once. Apparently, these dealers fail to realize that a higher wage-scale, taxation, lack of transportation, absence of skilled workmen who are still overseas, increased cost of raw materials and other contributing factors have caused high prices and will continue to cause them for many months to come. Virtually, the only solution for the photographic dealer is to be frank with his customers and to make it clear to them that the prevailing high prices are just as difficult for him to pay. Moreover, he should emphasize the point that he will pass on to his patrons any reduction in prices that may occur later on. It is far better for every dealer to take his patrons into his confidence than to remain silent and thus allow a feeling of distrust to obtain.

A. E. Dobbs' Studio

A. E. DOBBS, proprietor of the studio advertised for sale in February *Photo-Era*, desires to make it clear that his operating-room is 40 x 25 feet, whereas the entire studio is 40 x 50.

Hypo has a Centenary

MANY dealers may not be aware that the year 1919 marks an interesting centenary in the history of photography. According to authoritative reports, Sir John Herschel in 1819 discovered the reaction that sodium hyposulphite has upon silver-salts and made public this discovery in the pages of the *Edinburgh Philosophical Journal*. Some twenty years later he announced his method to use sodium hyposulphite as a fixing-agent. Although Wedgwood and others experimented with hypo before 1819, the fact seems to remain that in this year its vitally important place in photography was first made known commercially.

A Tip for the Makers of Sheet Mucilage

A CORRESPONDENT asks us why the makers of Sheet Mucilage do not state in their advertisements the many novel uses of their "mighty handy" product? For instance, he states that his wife temporarily and neatly, and in a few seconds, mended a tear in her dress! Wonderful, isn't it? "I had a number of good envelopes—I decline to say who made them—without any glue on the flap. I just took a strip of Sheet Mucilage, moistened it on both sides with my tongue, laid it on the back of each envelope and pressed the flap over it—two seconds, and the job was done! No more, for now." And in this way the correspondent closed his letter to the Publisher.

Advertising Second-hand Cameras

THOSE who have at any time had occasion to study the second-hand market must have found that many advertisers, both dealers and private individuals, frequently leave much to be desired in describing the goods that are for disposal. Take the case of apparatus with which the general photographer is not very familiar or that of an older model not to be found listed in any of the catalogs issued within the last ten years. We saw advertised recently, "A fine $3\frac{1}{4} \times 5\frac{1}{2}$ camera by — (naming a maker of a score of years ago), with two plateholders, no lens." This kind of advertisement, it must be admitted, gives little or no information as to the instrument for disposal, whether it is of single, double, or triple extension, whether it has a reversible back, or a rising-front or swing-back—details that any practical worker purchasing a camera requires to have for his consideration. An older photographer might know that particular model even from the inadequate description given, but a modern worker certainly would not—unless he happened to have catalogs on hand of a score of years back. We have even seen lenses listed by first-class firms with a reputation for second-hand goods from which the aperture, focal length, and other important details were omitted. Advertisers of second-hand photographic apparatus will do well to put themselves in the position of the buyer when describing their goods, giving just those details that they themselves would wish to have; a few words should not be omitted if their inclusion would give completeness to the description. It may be that an advertisement giving full information will be seen by a buyer on the look-out for the particular model of the apparatus described; whereas he would not take the trouble to write to the advertiser, if the goods were not fully described.—*The British Journal*.



They Cannot Advertise in Photo-Era

AMATEUR PHOTOGRAPHER (in the grocery-business): "This package of hypo is one pound short."

PHOTO-DEALER: "Is that so? You see, I mislaid my five-pound weight and weighed your hypo by the five-pound chicken you sent me yesterday."

APRIL

1919

20 CENTS

PHOTO-ERA

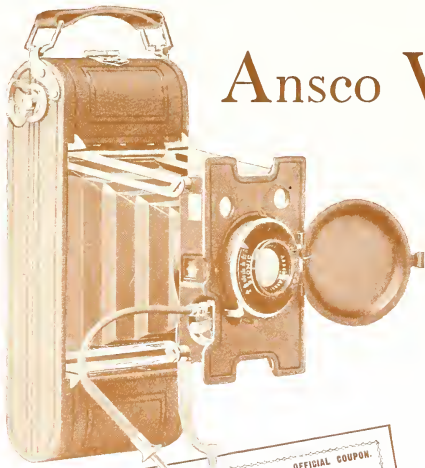
The American Journal of Photography



PROPERTY OF THE
BOSTON PUBLIC LIBRARY
THE CITY OF BOSTON
FROM

BOSTON, U. S. A.

The Gift of Gifts at All Seasons



Ansco V-P No. 2

TO the soldiers of the American Expeditionary Forces no gift can take the place of a camera—and now that hostilities have ceased and the censorship lifted, Ansco Cameras will be called for more than ever.

That the Ansco V-P No. 2 is the choice of the boys "over there" is well shown by the following letter from one of them:

Approved by War Dept.
Approved by P. O. Dept.

AMERICAN EXPEDITIONARY FORCES
CHRISTMAS PACKAGE COUPON

FOR: Athey, E. C. (Name) Sgt. Maj. (Rank) 153024 (Army Serial Number)
Att. Casual Co. # 1, General Headquarters, APO 706. (Company) (Regiment) (Arm of Service)

PASTE THIS COUPON ON THE PACKAGE

DIRECTIONS: One Christmas package not heavier than 3 pounds and not larger than 4 by 4 by 3 inches will be carried free from Hoboken, N. J., to each American soldier in Europe. Standard boxes of these dimensions will be furnished, upon application, by local chapters of the American Red Cross in the United States. Christmas packages must not contain perishable articles, or any articles prohibited by the postal laws from transmission by mail. PACKAGES NOT CONFORMING TO STANDARDS FURNISHED BY RED CROSS WILL NOT BE ACCEPTED. This coupon is authority for any postoffice to accept on or before November 25, 1918, a Christmas package containing the above regulations for the soldier named herein. Postage to Hoboken, N. J., must be prepaid.

THIS COUPON MUST BE PASTED ON THE PACKAGE TO SECURE ITS TRANSMISSION

A. C. PRINTING DEPT., C. D. & A. E. F., 1918.

ANSKO COMPANY,
Binghamton, N. Y.

Gentlemen:—The enclosed cut of an Ansco Camera, together with Money Order for \$27.50 and Christmas package coupon, tells what's wanted—Ansco V-P No. 2, with F 6.3 lens. Stick the coupon on tight. No writing necessary.

Sincerely,
EDGAR C. ATHEY.

Somewhere in France

October 4, 1918.

ANSKO COMPANY, Binghamton, N. Y.



THE BIRCH-TRAIL
FREDERICK B. HODGES



PHOTO-ERA

The American Journal of Photography

Copyright, 1919, by Wilfred A. French

Vol. XLII

APRIL, 1919

No. 4

The Charm of Discovery

FREDERICK B. HODGES



MERSON said, "All men are poets at heart." Some of us discover our poetic sense early, others late in life; but to all it is an interesting discovery, and to most of us, charming. Indeed, our lives might be said to consist of days of discovery, and while much of it seems trivial and unimportant, underneath all, is charm. None of it, however, would mean much to us, if we were not "poets at heart." Our poetic sense is very, very precious and, even though brief, the poem we discover, as we read nature's text, is God's gift, and it comes to us with a message of a perfect beauty—a perfect life that should be our goal.

When the May breeze knocked at my door, and I followed her voice and found a rare wild-flower in the spring-woods, a very pure sense of charm accompanied the discovery. Another day, afar off, over the fields, it was just a glint of light along the old fence, a lovely, tinted cloud in the depths of the blue sky, nearby the peaceful bit of shade cast by the lonely pine, the fragrant dampness of the warm spring-wind. Oh! these were discoveries of rare charm. It is nature's poetry and simple beauty that is charming, and in every phase of it, some esthetic emotion is appealed to. The meanest fields breathe forth her elusive charm, if we will but discover it.

I have walked the lonely stretches of a barren field, with a sense of novel, but very real pleasure. A strange, wild sadness possessed me, and yet there was a thrilling sweetness in its bleak mystery. The unkempt grass was brown and red, warmed in great waves by the evening-light. In the distance, the wood of pines was dark against the sky. Beside me the shadows glided silently, and my heart was filled with the discovery of a new charm.

As one poet has expressed it so fittingly and truthfully, "Beauty was lent to nature, as the type of Heaven's unspeakable and holy joy."

Each day she shows us fairer scenes, each day a deeper charm, if we but know the secret. Is it strange, then, that somewhere in the storehouse of our mind we keep the recollections of days with nature? Ah no! though long years intervene, we cannot forget when with reverent step we walked beside the brook in the valley, when we roamed in the meadow with the warmth of spring caressing us. We cannot forget the days when all nature burned with the fires of autumn, and our beloved fields and woodlands were painted with a wonderful and beautiful harmony. These things can never fade from the memory.

Whether we tread the lowlands, or roam toward the upland places; whether we walk beside the little shaded rills, or rest under the oaks at the forest's edge; whether we are traversing the winding roads, or loitering in the sunlit meadow, there is a fascinating spell cast over us. Call it the charm or beauty of the seasons, the freshness of spring, the warm delight of summer, or the mellow glow of autumn, if you will. It may be any or all of them, BUT IT IS NONE OF THEM, WITHOUT LOVE.

A Pasture-Road

Beautiful Canada creek, forever curving with charming grace, through field, woodland and marsh! A fund of rich content is stored close to this friend of the open, myriads of shadowy fancies are gleaming in the mellow greenness that flecks its breast. Its dreamy willow-borders are filled with visions. Ah! this brook that haunts the forests dim, that winds like a ribbon through the meadows, and broods quietly in the marsh. Wherever it lies, however it runs, it breathes perpetually of mysterious delight.

On a fragrant April-day I wandered here, listening to songs that seemed to come from the very soul of the stream. I found the cattle standing in the cool water of a shallow bend, a picture of content and quiet happiness, and here



A PASTURE-ROAD

FREDERICK B. HODGES

I found the little road by which they came. A narrow, sandy road, with woods on each side, a bit of nature's loveliness. The charm of this discovery comes to me afresh, as I write. Simple? Ah yes, simple indeed; but something was there of the unexplainable magic that stirs the soul, something from the green heart of nature, that our memory holds dear evermore. The bare spring-woods were sweet and fresh, suggestive of the witchery of nature, so soon to clothe them in all the lovely shades she knows so well.

There was a dainty, half-hidden charm in the road's deep sand, filled with the footprints of the cattle, and spread broadcast with scattered lights and shadows. Up along its winding way, in dreams we follow the cattle, past the bars, and on along this road where all things are fair to see to those who have eyes to see.

Few discoveries of worth will be made, unless

we are filled with the spirit of the scene. At times the face of nature is sad, but appealing still. It may seem dreary, but never commonplace. Nature never fails to impress us; we cannot walk in the dark, crowded forest, when the big winds are wailing overhead, without a keener appreciation of her mystery. When I walk beside the shining waters of the brook, an undergleam of charm pervades me that I cannot describe. At some time, in some way, a hint of these feelings gets into our pictures. Sometimes they lie so deep, and are so hidden from our reasoning power, that while we sense their importance, we cannot define them. They are like the stillest of sounds, as Keats has beautifully expressed it,

"A little noiseless noise among the leaves,
Born of the very sigh that silence heaves."



THE OLD FARM-ROLLER

FREDERICK W. HODGINS



THE DESERTED HOUSE AT SUNSET

FREDERICK B. HODGES

The Old Farm-Roller

Life is holy, its days are holy, and how much more so, if haunted by the pleasant paths of the days that are gone. There were many things along these paths, the sloping fields and purple distance, the peaceful south-wind and the restful refrain of the murmuring trees, the fragrant night and the soft darkness—all filled to overflowing with a pure and lovely mystery.

Does the love of it all never whisper in your heart? Over one of these pleasant paths I walked one day in November. A spirit seemed to breathe through the air—the spirit of the waning year. It seemed to roll with the dark clouds in the western sky, and glow between them with a yellow softness. Over a bit of rising ground, a boy was driving an old farm-roller, and here I saw again this tender spirit. It touched the boy, the brown old roller, the plodding horses and their blowing manes. Was there a charm in this discovery? Ah yes, the charm is unfailing if, on the current of life, we drift along nature's ways at such a time as this.

We cannot learn nature's lessons, or find her pictures, unless we think for ourselves. It is not what we read, though we should read, it is not what we observe, though we must observe—it is what we think and are able to see.

If we love nature as we should, we seem to look

through her beauty to eternal things. Indeed, nature-love is an empty thing, if through it we do not see God.

The Deserted House at Sunset

In the old days a bit of paradise was here, but now it is an empty nest that slumbers in the quiet dusk. The solemn pines, its faithful guardians, stand grim and dark against the evening-sky. Their ghostly rustle in the silence whispers of the lost days of old,—days when some sweet childhood was sheltered here, some precious lives that held this old home dear. Its radiance shone out for them with a loving glow, a sunny path led to its door, nearby the murmuring brook was full of cheer, and in the distance the fair fields called enticingly. Buried in the evening gloom, with gaping door and empty, staring windows, with deserted rooms and sunken roof, it is only a skeleton of departed joys. The fireside warmth is gone, dim phantoms fill the house, dead leaves strew the floors, blown in and scattered by the whisking wind with dismal sound, like voices of unrest echoing through its rooms.

And yet, beneath its darker gleam, in this old house of tender memories, we see a satisfying stream of joy, of comfort and of truth, that stirs within us a responsive note. The fragrant gifts of fields and flowers and trees, the never-failing

wonders of the day and night, the unchanging mystery of the pines against the sky, the memory of the happy host which gathered here. Our lives are like this old brown nest, which after its years of service is folded in the lengthening shadows of the evening, and slowly sinks to rest. The same resistless, silent power, bears us onward from the first day of our house on earth, through its spring, its summer, to the fading days of autumn, life's evening, when its brightness is of a heavenly purity, with hushed and gentle shadows like those of departing day.

Such a discovery as this puts one in a reminiscent mood. There are no riches like the dreamer's riches. As we pass by the days, and life falls from us, O never let it be with a sigh; let there always be a song in your heart. Courage and hope, not fear and doubt, are in the cheering clasp of nature's friendly hand.

Moonlight at the Old Farm

The old farm is the haunt of happiness. The joy of nature broods over its fields of waving grass, its woodland's shadowy ways, and its meadow of poetry. When my fancy leads me here, I turn my feet into the old path, the trail of many yesterdays, and follow the brook with its winding ways and sweet sounds, its soft, grassy banks and fragrant alder-borders. I mark the brooding stillness of the stream, and wish for its secrets. Here in its nest under the tall, dark pines, it is a brook of glowing quietness, and I think of the words of Homer: "Soft as some song divine, thy story flows."

If we could know the secrets of this brooding brook, or all the fancies that float in the wind-washed skies, if we could see the wonders the blue hills see, it would be too much. It is enough if we can learn to appreciate all we are able to comprehend. Men fail to gather the rich charm everywhere about them, they pass by the sweetness of daylight, its precious worth unrecognized.

Let us give our hearts to the brook of glimmering vistas, let us listen lovingly when the winds sweep and echo through the forest, let us look with devotion into the distance so soft and deep. I know the old farm in all the changing seasons of the year, when the fleecy greenness of spring haunts its woods and meadows, when the bright jewels of summer gleam along the waters of its brook, when autumn's display is on, along its wooded ways. I have been to it in what Goethe calls, "The twilight of morning," in the golden noon, and at the reddening close of day, but I have felt the charm of discovery most keenly in the solemn splendor of the moonlight, when the

day with all its charms and revelations was gone, and night was dreaming of the day to come.

Along the little knoll above the pleasant pasture, were nestled the buildings old and gray, and in the marshy pool below, their mirrored image lay. Behind the long outlines of the pines, with great clouds floating across it, was

"The moon like a flower,
In Heaven's high bower."

There is a stillness in my soul, as I gaze on this moon among the worlds so far away, yet seeming to hover quietly just across the marsh. Its lyric spell glows in my heart, its tender grace fills my eyes with dreams. The charm in this discovery I cannot tell, its flame burns within me, but cannot find expression in words.

The Birch-Trail

If you have seen the morning-light on the birch-trail, you have seen the gentlest of all woodland-paths at its best. The forest-wind steals along its way as it leads us on among its slim silver-sentinels, a dainty footway framed in green and white. So much of the beauty and wonder of nature is expressed in little things; there is a wealth of charm in the little trails, the little brooks, the little flowers.

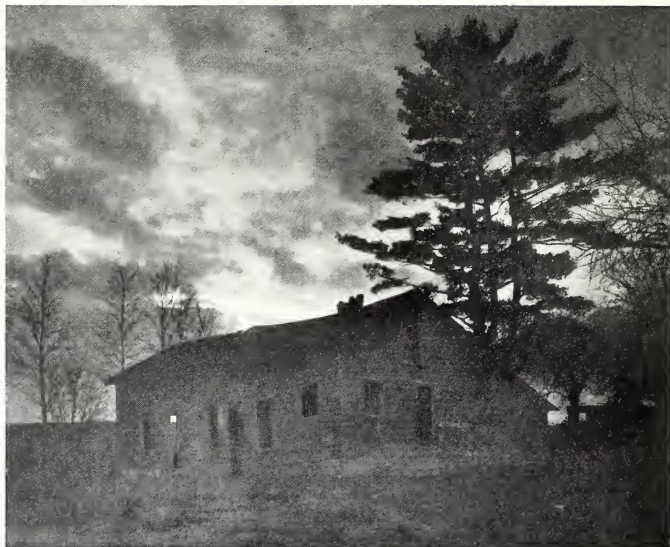
Sweetness and enchantment reign supreme along the birch-trail, and their tender imagery is traced every foot of the way. Such a soft, gray way in spring; such a warm, green way in summer; such a quiet, brown way in autumn, such valiant, glistening guardians. A sweet spirit hovers near its ever-waiting doorway, and beckons us on and on.

There are quiet, pleasant streams that flow near the birch-trail, the grave light of the forest over-spreading them; but we have no desire to stray aside from this path of gentleness, whose voice of love holds us, and tells us that around each distant curve there are dreams of which no whispered sound has reached us, visions that will thrill us anew.

You may discover the birch-trail when your heart is singing with the cheer of morning, or when it is filled with the sweet stillness of mid-day, or when the spirit of evening is drifting over it, and its way is checkered by the twilight-shadows. It matters little—the hour, the season,

"The summer-light, the winter-shade,
Each on my heart some gift has laid."

'Tis well to stop awhile, and let its spirit grow upon you, be engulfed in its waves of charm. It is in your blood to love this trail, it invites your



MOONLIGHT AT THE OLD FARM

FREDERICK B. HODGES

soul to yearn for solemn depths and finer charm beyond.

Perhaps, the greatest charm comes with the discovery of your power to discover. The charm of any discovery in nature's beautiful places, lies not in outward beauty, the green of the woods in spring, the russet brown of the fields in autumn, or the world clothed in winter's whiteness, but in their effect on our inner consciousness. It is only as we are swayed by the poetry in our natures, that we come to a full enjoyment of the great out-doors.

"The poetry of earth is never dead," and never should we let it die out of our hearts. If your imaginative sense is stronger than your neighbor's, if you feel with more intensity the mystery of nature, you will discover many things of charm that he will not. Listen to Longfellow's words,

"It is the soul that sees, the outward eyes
Present the object, but the mind deseries."

There was a day when you were suddenly impressed with the luminous paleness of the sky at

the horizon, another day when, with the last signs of winter still about the fields, a thousand little pools mirrored the wonders of the sky. Still another day, when in the clear, fresh light of morning, you saw the first quiver of the water over the lake. Something new, something glad, greets us as we stray into the sweet places of nature, through the little hills with soft dreaming breezes beside us, in the woods where sleep the leaves of many years, away, over the untracked fields where the winds have raced through all the seasons, along the margin of the chiming brook. Our cares! where are they?

"I lost them yesterday,
Among the winds at play."

No matter what your quest in nature's shy retreats, the charm of discovery will be yours. The land flows with the alluring delights that only nature has to offer. "Earth is a gentle mother to the child," and we are all children in the presence of nature. But probably no one feels this charm more keenly, or with greater appreciation, than the maker of pictures. The

mission of pictures being to please and instruct—not simply their maker, but others—the charm of his discoveries extends to an unlimited number of people. His pictures must not be merely pretty, gratifying a passing fancy, but must live and grow as the years pass. To make this possible, their maker must love the ideal, must be sensitive to what many of his friends will call the unreal. Carlyle said, “Speak not at all, in any wise, ’till you have somewhat to speak; care not for the reward for your speaking, but simply and with undivided mind for the truth of your speaking.” The value of this advice is obvious.

Applying this to picture-making, do not make a picture ’till you have in mind one worth while. Pictures mean more, many times more, than speech, because people frame them and place them on their walls, and read their message daily. Your high ideals, your beautiful thoughts, your appreciation of nature’s mystery, speak to them constantly.

If your pictures express something of your feelings as you heard the voice of spring by the cool, green rippling stream, the soft wind brushing your cheek, as you roamed in the fresh wildwood, or reveled in autumn’s riot of colors, if they mean in some degree, what you intend them to mean,

you may be sure that they will point out these things to all who see them, just as the loving hand of nature pointed them out to you.

We should strive to accumulate the riches of the mind, and stop seeing only the surface of things. Then the charm of discovery will delight us wherever we are, in the country, the city, or in our homes.

The lure of the earth and air is a magical thing, nature is always yielding us fresh charm, and she is continually blessing us with her blessedness.

“May I never face a dawn,
With all the awe and wonder gone.”

Do you know the muffled music of the wind at night? Have you been where the wooded glades slope toward the sunset, and the twilight spreads her shadows, with the sun slipping, slipping, down? Have you heard the song that runs through the tall old pines? Have you walked the lonely road at night, the little shivering wind following you? Have you found something of the hidden wonder, the beautiful mystery that drew you closer to nature, and made you feel sheltered in her arms? Ah! then you know something of what I have tried to make clear by “The Charm of Discovery.”

The Move to the “Movies” (Seventh of the “Professor Pyro” Talks)

MICHAEL GROSS



ALTHOUGH the statement may astonish you,” said Professor Pyro, “it is, nevertheless, a fact that the phenomenon which underlies the entire structure of the ‘movies’ was known and discussed before the birth of Christ. I do not mean to convey the impression that, even in those early days, the ‘Nickel-odeon’—so dear to the childhood of many of you—flourished and took its toll of laboriously saved five-cent pieces. Far from it. But ‘persistence of vision’—the optical law by which motion-pictures appear to move—was known to the ancients. The first recorded statement upon the subject was made by Lucretius in the year 65 B.C.

“This ‘persistence of vision,’ let me hasten to explain, is the name given to a peculiar property of the eye by which we are enabled to see

a thing after it has really passed out of our sight. A better way to express the same thing is that when we view a moving object there is a brief delay in conveying—from the eye to the brain—the impression of what we see. The brain really ‘sees’ the object after it has passed. Now, if during the fractional part of a second that elapses while the image is telegraphed—so to speak—to the brain, a second progressive picture is placed before the eye, the sensation in our brain will be that we have seen the object move.

“If you have ever seen a boy in the act of twirling a burning stick, you will grasp my meaning more readily. In watching such a display, the effect, if you will recall, is of a continuous ring of fire. In truth, however, the eye is really seeing the stick in a series of leaps and bounds—intermittent action instead of continuous action.

"Were we to make a series of motion-pictures of this boy engaged in twirling the stick, it would require but a dozen or so pictures to show him completing the action. The first picture would show his hand at his side; the second with the hand raised a few inches; the third with the hand a little nearer the shoulder; and each successive exposure would carry the stick a little farther on its way over the boy's head. In viewing the result on the screen, we would get the impression of having seen the stick leave the boy's side and of having followed it until it was raised above his head. In reality, however, we have seen only a dozen distinct pictures of this particular action.

"When Professor Tyndall estimated that the time of the persistence of an impression on the retina was one-sixteenth of a second, or, in other words, that the eye would convey and the brain receive sixteen distinct impressions in one second, he gave us the mathematical basis of modern cinematography, and all motion-picture cameras are constructed to photograph and all projective machines are made to project the film at this rate of speed. But I fear that we are getting a little ahead of our story.

"Records prove that as far back as 1795 scientists were trying to find some way to produce the phenomenon of pictures that moved; but it was not until the year 1845 that anything even approximating this result was placed upon the market. In that year there was introduced in the United States a peculiar contrivance called 'The Wheel of Life.' It consisted of a cardboard cylinder—a hatbox with the top removed would give you the closest idea of its appearance—into the upper half of which vertical slots were cut at equal distances apart. Ten or more drawings, usually of a dancing girl, were then placed around the lower half of the inside of the cylinder. By revolving the contrivance rapidly on an axis which came up through the center—meanwhile keeping the eyes at the slots—one received the impression that the pictures inside were in motion. Although there was no photographic process used in connection with 'The Wheel of Life,' its action was based on the same principle as that of the modern motion-picture camera, and it deserves mention on that account.

"The next step in the development of motion-pictures came when Eadweard Muybridge, an American investigator and photographer, began his famous studies of the horse in action. His experiments were carried out in California, on the private race-course of Governor Stanford, whom Muybridge had persuaded to finance the undertaking. Muybridge used a battery of

twenty-four cameras, the shutters of which were sprung by the galloping horse coming in contact with threads that had been stretched across the track.

"Muybridge's pictures were shown at the Photographic Convention held at St. James Hall in 1889 and, without a doubt, were the forerunners of motion-picture photography as we know it to-day, although records show that France had granted Ducos a patent in 1864 for a battery of lenses which, operated in rapid succession, showed successive stages of the movement of an object. Due to the fact that the dryplates of his day could not receive impressions with sufficient rapidity, Ducos had to drop his experiments and Muybridge reaped the benefit of them when instantaneous photography came into its own.

"The pictures made by Muybridge received world-wide notice, and inventors started immediately to experiment with various other methods to show pictures in motion. However, the universal obstacle at that time was that glass-dryplates were too bulky to work with; and, in consequence, no new developments of any importance were recorded.

"When Goodwin gave the world the first celluloid-film and Eastman began to manufacture it in quantities, this new photographic departure gave the quest for commercial motion-pictures a fresh impetus. Thomas A. Edison began to work on the problem and in 1893 he exhibited, at the World's Fair in Chicago, an apparatus which he called the Kinetoscope. This machine was capable of producing an indefinite number of negatives on a single, sensitized, flexible film, that was able to make forty-six pictures a second by actual test.

"To view the pictures made by the Kinetoscope, you dropped a nickel into the slot of the machine, placed your eyes at a peephole, and turned a crank. For your five cents you saw a series of motions of a scene that lasted for thirty seconds. However, the novelty of this device soon wore off, and Edison, himself, seeing that the Kinetoscope was doomed, began to devote his energies to perfecting a projection-machine.

"Before Edison accomplished this new task, W. Fries-Greene and M. Evans patented a machine for making photographs on celluloid. It made and displayed ten pictures a second on a continuous photographic film. Motion-pictures could be said to have a good start now, and the Fries-Greene machine was soon followed by the Edison Vitascope, which could be used to show pictures on a screen.

"In July 1896 Lumière's Kinematograph was exhibited at the Union Square Theatre in New

"THIS DO IN REMEMBRANCE OF ME."



W. STELTIN

York and motion-picture photography arrived to stay. In 1900 the industry was being put gradually into shape, various minor improvements and additions were invented to improve the making as well as the projection of the pictures. To-day—a small matter of eighteen years later—the American people pay over three-hundred million dollars a year in admissions alone for this form of entertainment.

“Perhaps, a word regarding the method by which a modern motion-picture camera makes pictures may not be amiss. In the ordinary Kinematographic machine, a continuous band of flexible film is placed behind the lens. When the crank of the camera is turned, it does two things: it opens the shutter long enough to expose a film and feeds enough of the film to receive the picture appearing in front of the lens; then the shutter closes and—in the interval of darkness—the film moves forward again and a fresh surface is exposed to the light when the shutter is again opened automatically. A motion-picture negative film is one inch long and three-quarters of an inch wide and is supplied in rolls of from twenty-five to four hundred feet in length. A strip of film a foot long contains sixteen pictures.

“When the positive film—printed by contact from the original, or negative-strip—is shown upon the screen, a foot of film, or sixteen of the pictures, are shown in one second. The spectator, watching the picture, gets the impression that he has seen pictures throughout the entire second. In reality, the shutter of the projection-machine has thrown each separate picture on the screen for about one-thirty-second part of a second, followed by an interval of the same length of time during which the next picture is moving into place. This interval—or space of darkness, as I have explained—is so brief, that the first picture projected persists in the vision until the second picture comes on the screen and the object is changed to the next position.

“As a form of entertainment and an educational force, the motion-picture merits a position

in the front rank of the world's activities. As a method of teaching history, geography and other studies it is of great value; for besides having the obvious advantage to teach through the eye instead of through the ear, the motion-picture by dramatizing a subject, makes it vitally interesting to the pupil and draws his attention to the subject in a way that a ‘dry-as-dust’ volume does not. I feel confident that the time is not far distant when ‘animated text-books’ will replace many of the present methods of teaching in the public schools.

“Now for a word with regard to the methods used in making motion-pictures. I suppose that you know that the night-views you see on the screen are all photographed during the day and then changed to moonlight-effects by dyeing the film itself blue; but did you know that motion-picture actors never wear white shirts, collars, or other white articles of dress during their work before the camera. Material of a yellowish tinge is used instead, for white gives too chalky an effect in the finished picture. Red rouge, if used, would photograph black so that a shade of yellow make-up is utilized instead.

“The trick-photography shown upon the screen usually falls into one of three classes. First, the pictures are made thirty-two to the second instead of sixteen, thus making all animated objects move about at exaggerated speed; second, the film is fed into the projection-machine backwards, thus showing boys diving out of the water onto a spring-board, men jumping from the ground to the roof of a house and so on; third, the method of elimination or substitution, the camera is stopped while a character either gets out of the field of vision or another character is substituted in his place. When the picture is shown on the screen the audience, viewing the film as a continuous movement and seeing a character appear in one scene and disappear in a succeeding one, gets the impression that he has vanished into thin air.”





FEMALE REDWING BLACKBIRD FRANCIS HOBART HERRICK

An Ideal Method of Bird-Photography

FRANCIS HOBART HERRICK

MORE and more is Nature winning her way to the hearts of amateur and professional photographers. Landscapes are a source of quiet delight, but the photography of animal-life which calls for quick exercise of the mental faculties, physical effort and technical ingenuity, becomes a sport and a supreme diversion. In this connection, we have reprinted, for the benefit of PHOTO-ERA readers, parts of one of the most instructive chapters of the admirable work, "The Home-Life of Wild Birds" by Francis Hobart Herrick. This is but a small part of the wealth of technical information to be found in the volume. It is a pleasure to record that Mr. Herrick has accomplished, with brilliant success, the object of his patient efforts—not only as a keen and accurate observer of song-birds in their natural habitats, but as a clever and resourceful photographer. His remarkably interesting volume awakens in the reader, who is not already a nature-student, a desire to observe closely the habits of the song-birds during their nesting-

season, how they feed and protect their young, teach them to fly and prepare them for life's important and precarious journey.

The several illustrations that accompany the extracts testify to the efficiency of Mr. Herrick's method—a method easily within the scope of the ability of the average camerist. It enables him to see with his own eyes at a distance of a few inches or feet, more or less, what birds do in or about their nests, affords him rare opportunities to make photographs—not merely a single picture or a chance snapshot, now and then, but an unlimited series of pictures to illustrate the behavior of birds in the fullest manner and at the most interesting period of their lives. It is often an easy matter to focus the camera directly upon the bird itself and to give a prolonged exposure when desired. Moreover, the camerist can approach as near as he wishes and make photographs of any required size without recourse to consequent enlarging. Among the one hundred and sixty photographs that embellish Mr. Herrick's book, there is not one but

shows the object and its surroundings in a favorable position, well lighted and sharply defined! No picture is a lucky snapshot, but a masterpiece made under conditions easily and quickly prepared. It is amusing to think that the shyest of birds have posed successfully and unsuspectingly before a camera hidden only a few feet away and before their very eyes! The method is available anywhere—in the woods, at the road-side or before a sand-bank. We will let Mr. Herrick describe his photo-equipment and methods in his own words.

"Photography has become so essential to the practice of the other arts and sciences, that the student need not suffer from lack of advice, or of detailed manuals which treat every branch of the subject. In the notes which follow, I shall confine myself mainly to the results of personal experience in working with the tent.

"THE OBSERVATION-TENT.—To satisfy the student and photographer of birds, the tent must not only afford a perfect means of concealment, but must be light, portable, easily adjusted and comfortable for the worker. The first tent constructed, which meets these requirements fairly well, and has seen service for five seasons, I will now describe. It is made of stout, grass-green denim, and with the frame weighs only six and one-half pounds. It can be pitched in ten minutes almost anywhere, and may be rolled compactly, and carried for miles without serious inconvenience. It is six and one-half feet tall, three feet eight inches long, and three feet wide—dimensions which will be found suitable for a person not much above the average height. One may spend any number of hours in it by day or night, with a fair degree of comfort—excepting in very hot or sultry weather—when exposed to the sun on all sides. I have suspended operations only once on account of the heat; but there have been occasions when to do so might have been better. More than once, I have found it a welcome protection from the rain.

"The tent-frame is in three pieces, two upright poles or stakes with folding cross-bars, and an adjustable ridge-pole. The stakes should be from six to six and a half feet long, and may be easily lengthened at any time, as when the tent is to be pitched in a swamp or over mud and water. They are pointed at the lower ends which are set in the ground, and capped above with an arch of sheet-iron to receive the ridge-pole. The latter is held in place with two pins or wire-nails, which are pressed through a hole in the iron-cap, and through the end of the ridge-pole into the upright stake. The eaves of the tent consist of a double-fold of cloth pro-

jecting half an inch, to each corner of which is sewn a covered brass-ring. When in position, the tent is guyed firmly by small cords fastened to each ring. The flaps are placed at one of the corners, and may be pinned together when in use. The free lower border of the tent is fixed to the ground by wire-pins, which may be pushed through the cloth at convenient places. From four to eight of these pins are needed, and each should be seven or eight inches long, and have a soldered loop at one end.

"The tent may be ventilated from above and made more comfortable on hot days by cutting out a large flap on each side of the roof, extending this a foot or less, and then guying each corner separately, at such an angle as to admit a free passage of air under the peak. For convenience, I prefer the simpler form. After working during the summer of 1899 with this tent, I saw for the first time the interesting work of the Kearton brothers, in which a different kind of blind is used. They devised an imitation tree-trunk, having a skeleton of bamboo rods and a covering of galvanized wire and green cloth, large enough to hold the photographer standing erect with his camera. The outside was painted in imitation of bark and decorated with moss and leaves. This was used in cases of nests placed on or near the ground in favorable situations. Mr. Kearton says that it would hardly do to set this up beside an exposed nest like a lark's 'in the middle of a bare ten-acre field,' and to suit such a case they constructed an artificial rubbish-heap, from which photographs were successfully made.

"Such devices are, of course, unnecessary when the nesting-site is brought under control, as in this case the birds must become accustomed to a changed environment, and the addition of the tent is a factor of no great importance. Then, again, the great heat of summer would prohibit their use in most parts of this country. No decoration of the tent is commonly used, and its color is a matter of minor concern. However, aside from the question of comfort, the advantages of the tent lie in its convenience and portability. It is a simple means to attain what is sought chiefly—perfect concealment. Possibly, the reason that it had not been adopted before, arose from the fact that the readiness with which many birds become accustomed to strange objects, or form new habits, had not been hitherto appreciated. What wild animals fear chiefly are strange sounds and strange objects in motion. All things at rest, whatever their form or color, are soon disregarded by birds, of which fact the reader will find abundant testimony. On the other hand, it is well to remember that individual



OBSERVATION-TENT

FRANCIS HOBART HERRICK

and specific differences are very great, and one should not be amazed if some cases are found in which the tent or any similar blind will not work with success.

"THE TENT IN USE.—Some difficulty may be experienced to pitch the tent in exactly the right position with reference to the nest, without the necessity of further change. The factors to be borne in mind are the height of the sun, the focal length of the lens, and the position of the window to be made in the tent-front directly opposite the nest. The front of the tent should be parallel with the nesting-bough—when there is one—and the long axis of the latter should be parallel with the sun's course. The tent is placed so that the nest is in direct line, not with the middle of the tent, but with the window to one side. When the observer stands within, facing the nest, the window lies at his left, at one side of the vertical pole, and either just

over the cross-piece or somewhere below it, depending on the height of the nest from the ground. The tent will not overshadow the nesting-bough when once set in proper position. If the focal length of the lens be six and one-half inches, and the nest that of a Cedar Waxwing which is mounted at the height of four feet, and the tent be so placed that the front of the lens is twenty-eight inches from the rim of the nest, we shall get a picture with adequate setting on a 4 x 5 plate. With lenses of longer focus—which it is advisable to use, if possible—it is not necessary to approach so near.

"When the position is determined, the tent-poles are set firmly in the ground, the ridge-pole adjusted and the tent-cloth thrown over it. It saves time to place one end of the peak in position and to draw the other over to its proper place. The cross-pieces are then lowered from the inside and the guys set loosely. A flap



STARTLED CEDAR-BIRD

FRANCIS HOBART HERRICK

about six inches square is then cut with scissors in the front of the tent, to the left of the pole opposite the nest, which can be viewed through the opening. Should the position subsequently prove to be wrong, the poles may be raised together and reset. When everything is right, the guys are tightened and the free edges fixed to the ground with wire-pins, which will hold the walls taut and prevent excessive flapping when there is wind. It is often convenient to have the flap at the front of the operator's left, so that one leg of the tripod may project through it and thereby aid in placing the camera.

"The proper adjustment of the camera follows, the nest being the object focused upon until the old birds appear. I have found it advantageous to pin the focusing-cloth firmly around the camera so that it is always in position to use, and to stretch a piece of green denim on the side of the camera next the observer, fixing it between the front fold of the focusing-cloth and the tent so that it hangs vertically, and effectually conceals the operator when standing upright and setting the shutter. Peep-holes are made to command all directions, and, of course, the

nesting-bough in particular to which attention is mainly given. It is convenient to make small V-shaped openings which can be pinned up or down. A bird will sometimes detect some movement of the eye when close to such openings, so that they should not be made larger or more numerous than necessary.

"When a photograph is made and the shutter is to be reset, the vertical flap is released from the focusing-cloth and drawn carefully over the window, if the birds happen to be at the nest, as when the female is brooding. Otherwise, if timid or unaccustomed to the new conditions, the movement of the hand may be a source of alarm. I have photographed, successively, family-groups without disturbing them, when at a distance of from twenty-eight to thirty-six inches, after they had learned to disregard the clicking of the shutter. When a window in a different position is wanted, the old one is patched up and a new one made.

"**PHOTOGRAPHIC SCREENS.**—The advantages offered by white or neutral screens are appreciated most where no good natural background is available, and especially when birds of dull or



YOUNG RED-SHOULDERED HAWK

FRANCIS HOBART HERRICK

spotted plumage are to be photographed against a background which is spotted by foliage or by undesirable objects of any kind, which reflect the light strongly.

"To be of much service, the screen should be fairly large, and with frame and supports it is too cumbersome to be carried in the hand, except for short distances. Yet, one is often repaid for the extra trouble involved in its use by a series of clear-cut portraits, which could not be obtained in any other way. For ordinary purposes, a sheet of white cotton seven to eight feet long by six to seven feet wide answers well. This is tacked on a folding deal-frame and erected at a distance of from five to six feet behind the nest, or at a point sufficiently out of focus.

"PROTECTIVE SCREENS OR NETS.—Whenever the nest is in a vertical trunk of wood, as in the case of Woodpeckers, Chickadees, or the little House-Wrens, and this is mounted on a pivot, the whole may be defended easily from cats and other enemies by means of a flange of zinc or tinsplates, encircling the stump at the proper height, or projecting from the block to which the trunk is secured. Suitable protection is necessary.

"A circular enclosing-net may also be used, and this is necessary whenever a horizontal branch is supported on stakes. For this purpose there is nothing better than the common galvanized iron wire-cloth netting of one-quarter inch mesh. It should stand at least three feet high, and should be pinned close to the ground with wire-staples. To this, an overhang one foot wide—of looser poultry-netting—must be added all the way around. Such a screen is warranted to stop the cat, as well as every rodent and snake, large or small.

"CAMERA.—Any good long-bellows camera with reversible back will answer, the size and weight being the considerations of greatest moment. Most naturalists and sportsmen, who travel long distances and carry their own traps, find a 4 x 5 plate-camera the most convenient and economical. I commonly use this when working with the tent, but often prefer the 5 x 7 size, because it gives a larger and better picture of the object sought. The large camera with the heavy lens may be a drag on the mind and body of the most enthusiastic pedestrian; but one is usually repaid amply for the greater

trouble involved. However, for long journeys the lightest possible outfit is decidedly preferable. Moreover, in general field-work, a $3\frac{1}{4} \times 4\frac{1}{4}$ film-camera is always in demand.

"In working at short range with lenses of moderate focus, the long-bellows camera is a necessity and, at the same time, it enables one to make full-sized pictures of small objects, as well as to use the telephoto-lens, should this be desired. The reversible back, making it possible to reverse the position of the plate without moving the camera, and often without disturbing the bird, is an adjunct of the greatest convenience.

"Although the best tools are always to be desired, excellent pictures can be made with a moderate-priced outfit, provided the lens is rapid enough. Nearly all of my own work has been done in the tent with the birds at hand; but in making high-speed exposures of birds or quadrupeds, when there is no hure to chain them to a given spot, a box-camera is needed. The lens should be of long focus, and the adjustments such as to enable the operator to focus and to expose as nearly simultaneously as possible. To meet these requirements, the twin-lens and reflecting-cameras—both of which are old inventions—have in recent years been placed on the market in improved and serviceable forms.

"**THE LENS.**—In animal-photography, short and long-focus and telephoto-lenses are available. My own experience has been limited mainly to the following: Bausch and Lomb-Zeiss Anastigmat, Series IIa, $6\frac{1}{2}$ -inch focus, speed F/8; Convertible Anastigmat, Series VIIa, combined equivalent focus 8 inches, speed F/6.3; Extra Rapid Universal lens, Series D, $9\frac{7}{16}$ -inch focus, speed F/6; Plastigmat, No. 4, $9\frac{1}{4}$ -inch focus, speed F/6.8. The convertible anastigmats are convertible in two or three lenses of different foci, according as the single anastigmats are of equal or different foci. They thus combine in a single lens the possibilities of working with short and long foci, the greatest speed being obtained when each system of the doublet has the same focus. The cheaper lenses are equally serviceable for work in the field. In these, the rear-lens, which has twice the focal length of the doublet, may be used separately; but, of course, with a greatly reduced speed. Those who have worked also with the Goerz lenses of similar focus and speed will find little to be desired in the possibilities of the best photographic instruments.

"In photographing animals close at hand, the anastigmat qualities of a lens count for little. It is depth of focus combined with high speed

which are most needed, consequently any lens that possesses these qualities is to be preferred. One of the most difficult problems in bird-photography has been that of approach within 'shooting' distance. The control of the nesting-site and the use of the tent offer a solution so far as life at the nest is concerned, in at least many species; and the tent in its general use does away with the need of the very long focus or telephoto-lenses.

"In photographing birds that are sitting, brooding or standing at the nest, there is no difficulty with an F/8 lens, which requires $1/25$ second to expose the plate fully, at a distance of twenty-eight inches with wide-open lens and strong light. However, with scenes in which the actors are in constant motion, we require a much faster lens, which will reduce the exposure to at least $1/50$ second. But little is gained in attempting to use long-focus lenses at such short distances, because, in stopping down the lens to ensure the proper depth of focus we are certain to sacrifice too much light. When large pictures (including more of the surroundings) are desired, better pictorial results are obtained by increasing the distance and using lenses of moderate focus. From perfect negatives, bromide enlargements are easily made.

"To photograph inaccessible nests, and birds which pose well but are unapproachable under ordinary conditions, we must resort to the long-focus and telephoto-lenses. The long exposure required for the telephoto-lenses now on the market, from one-half a second to a second or more, restricts their use to comparatively rare and lucky chances.

"**THE TRIPOD.**—When two cameras of the 4×5 and 5×7 size are carried, a single tripod will answer for both, provided it is moderately firm about the head. A two-length tripod of medium weight will serve most purposes; but a shorter one is also required for nests on or near the ground. This is best made by cutting down one of the ordinary kind, rather than resorting to those of the multifolding type, which, unless made of metal, are constantly spreading and slipping at critical moments.

"**THE SHUTTER.**—In photographing birds whose sense of hearing is well known to be acute, a silent shutter is next to a good lens in importance, especially when the camera is less than three feet away. The shutter which is silent not only in name but in actual use, and at all speeds, is still one of the greatest needs in the close-at-hand photography of animals, and especially of birds.

"At the first click of the metallic shutter birds will often jump into the air as if shot. Fortu-



BROWN THRUSH ON THE ALERT
FRANCIS HOBART HERRICK



2
FEMALE FLICKER ENTERING NEST
FRANCIS HOBART HERRICK



nately, however, the force of habit now comes to our aid, since they gradually learn that it is harmless, and may be safely disregarded. The iris-diaphragm shutter, which I have used, is often troublesome, in that some part of the sound arises at the very beginning of the exposure, so that a startled bird in the course of one-twentieth of a second may be all over your plate.

"The marks on all such shutters, which are conventional rather than exact time-measurements, differ in different shutters of the same or different make, and their limit of rapidity does not exceed '1/100 second.' For greater speeds, the focal-plane or some other very rapid shutter must be used.

"PLATES.—For animal-photography the most rapid plates are none too fast, and any of the best brands can be recommended. It is always a good plan to adhere to one make which has proved satisfactory. One piece of advice should not come amiss, which is to use always fresh plates, and all of the same emulsion, if possible. If any doubt as to their age exists, test them before starting on an expedition. Old plates blacken along their edges in a characteristic manner when placed in the developer; and if deterioration passes this stage, the whole plate will fog. The dusting of plates, slides, and plate-holders before filling, and the carriage of all unused plates in a dust-proof bag, are as much a necessity now as ever. Much of my own work has been done in the country with darkroom and base of supplies close at hand. Under these conditions, it is not necessary to carry more than two or three dozen plates at a time. By developing on the day of exposure, it is possible to correct errors or fill up the gaps on the following day. When time-exposures can be given, orthochromatic plates offer advantages which should not be neglected; but when the exposure is necessarily rapid, the ordinary and moderate-priced plate is equally good.

"RECORD OF OBSERVATION.—It is perhaps unnecessary to suggest that all records of observation should be made systematically on the spot and with great care. Experienced students generally develop a system of their own, which in many cases suits their needs so well as to leave little to be desired.

"ACCESSORIES.—The minor articles which are needed to complete the bird-photographer's outfit, all of which can be rolled up with the tent or, better still, carried in a hand-bag, will be suggested by a little experience in the field. A saw, hatchet and nails are often required, as well as scissors and pins, the supply of which is always likely to run out, and a small hand mirror for use in setting the shutter from the rear. A toilet hand-mirror which can be turned at any angle is a convenient means to inspect the interior of nests inaccessible to the hand, but within reach of the mirror attached to a pole."



AS a noted portrait-painter has stated, you can no more know about art from reading about it merely than you can expect to know about music from reading about it. You must see pictures, you must see sculpture, you must see architecture, you must see the best art, to be benefited. By this, it is inferred that only meritorious works should be studied and that meretricious ones should be eschewed. Therefore, the student of pictorial photography will derive benefit from viewing, critically, the best works in painting, sculpture, architecture and pictorial photography; for there he will find exemplified not only accepted art-principles, but the motive that inspires the true artist and guides him to outward expression.

W. A. F.



Practical and Humorous Experiences in Photography

Part II. Developing, Printing and Enlarging

A. H. BEARDSLEY



WITHOUT a doubt—next to developing—printing is at once a source of delight and disillusionment. It is a delight when a clear, snappy print is the result; and a disillusionment when an apparently excellent negative yields a soot-and-white-wash or deeply mottled result. Most amateurs use a developing-paper, that is, a paper which after exposure to light in the printing-frame shows no picture until it is placed in a developing-solution, which brings out the image on the otherwise white paper. Of course, there are many other printing-processes, phosphate, platinotype, ozotype, blue-print, carbon, gum-bichromate, oil, ozobrome and bromoil. Of these, blue-printing is the only one that is of any interest to the average amateur. Indeed, this process is so simple that it is usually resorted to by all camerists who have neither incentive nor time—or both—to devote to other printing-processes. It is a veritable “add-hot-water-and-serve” method. Cold water and sunlight are the only means needed in addition to a printing-frame. Although I have my own opinion of an amateur who uses a fifty-dollar camera and makes all his prints on blue-print paper, I confess, without a blush, that my first pictures were all made on blue-print paper. The fact that I used blue-print paper is indicative of my general photographic intelligence, at one time.

The amateur who uses developing-paper for the first time is usually assured of an entire evening’s entertainment or the opposite. The process is not difficult, but at times it may cause the embryonic photographer considerable perplexity. Three trays and a large pan or basin, one printing-frame, graduate, necessary chemicals and a piece of cheese-cloth constitute the required equipment for the first modest experiment. Fortunately, it is not necessary to carry on the manipulations in semi-darkness. So long as the packet or box of sensitized paper is shielded carefully from any light, all work may be done by daylight or artificial light.

Speaking of daylight, it might be well to interrupt the discussion of developing-paper long enough to call attention to the daylight-printing papers. These have the advantage that the image may be seen clearly at all stages of the printing and that a toning-bath enables the amateur to obtain tonal values that are at once

beautiful and varied. There are so-called self-toning papers which may be fixed and toned in a plain hypo-bath. Next to blue-print, no printing-process is simpler than daylight-printing. Obviously, if there is no sun there can be no printing; hence the popularity of developing-papers which may be used day or night, regardless of weather-conditions. One word of caution to those using daylight-printing paper: be sure to tone all prints before showing them to admiring friends, else two or three days later the masterpiece will be a *faded* memory.

Briefly, the developing-process is carried on as follows: the printing-frame is grasped firmly in the left hand, the negative is placed in it, shiny side down on the glass—if the dull side is placed on the glass the resulting print will be the exact reverse of the original, left will be right and vice versa—next, the sensitized side of the paper is placed on the dull side of the negative—usually the concave side of the paper is sensitized and may thus be recognized—then the back of the printing-frame is clamped into position. Much of the evening’s entertainment, and likewise disappointment, consists of trying to guess how long to expose the printing-frame to the light, before taking out the paper to immerse it in the developing-solution. If the exposure is too short, the print must be literally soaked in the developer, with the usual result that the paper becomes so sadly stained and the picture so faint that the print is ready for the wastebasket. On the other hand, if the exposure is too long, the picture fairly leaps out of the paper and, before the print can be removed from the developer, it is a stormy black. Between these two extremes lie several hundred variations of effect—one print may have some of them and another all of them. In connection with these “effects,” it is customary to have at one’s instant command several well-chosen, thoroughly satisfying expletives. It is well to have a repertoire sufficiently elastic to suit all requirements, namely, some to be used in the presence of ladies and others more vituperative to be employed when alone.

We will assume that the amateur is a fair guesser and that most of the prints when immersed in the developer yield satisfactory pictures. However, it will not do to remove them from the developer and gaze at them admiringly,



PRESENTING CONGRESSIONAL MEDAL
TO LIEUTENANT-COLONEL WHITTLESEY

FRANK E. COLBY

as the developer continues to act even after the print is held in the hand. It is best to rinse the print in the tray containing water and then immerse it quickly in the next tray containing the fixing-bath. At the end of fifteen or twenty minutes, the print may be removed from the fixing-bath and admired at length before placing it in the large basin for its final washing. If running water is not obtainable, twelve to fifteen complete changes of water should remove all traces of hypo.

The next and last step is to remove the prints from the wash-water and to place them face down on a double thickness of cheese-cloth, which may be spread conveniently on top of a bed, if the amateur is a bachelor; otherwise, it is safer and more conducive to connubial felicity to spread the cheese-cloth on the kitchen-table. As printing is done usually at night, the next morning should find the prints dry, ready to be trimmed, mounted or pasted in the family-album. This, in brief, is the developing-process indulged by thousands of amateurs, and is the only process that most of them ever attempt.

Next to printing, in interest, is enlarging. Instead of placing the negative and paper in close contact in a printing-frame, the negative is

placed in an enlarging-box or camera which by means of daylight or artificial light projects an enlarged image of the negative on a board set at right angles to the enlarging-apparatus. In short, the enlarging-box or camera closely resembles a stereopticon which projects pictures on a screen, with the difference that instead of a positive, a negative is projected. On the board—which corresponds to a screen—a large sheet of sensitized paper, known as bromide or enlarging developing paper, is fastened, the sensitized side being placed toward the enlarging-camera. The enlarged image of the negative is thrown on the sensitized bromide paper which, after a few seconds' exposure, is developed, fixed, washed and dried exactly in the same manner as the smaller contact-prints.

Enlarging-boxes and cameras are legion. The simplest and least expensive is one of box-form. The negative is placed in one end and the bromide or enlarging developing-paper in the other. The entire box is then taken to a convenient window or to strong artificial light and exposed like an ordinary printing-frame. The other extreme is an enlarging-apparatus built permanently as part of a darkroom and containing a powerful illuminant, condensing-

lens, long-draw bellows-camera and high-grade anastigmat or special enlarging-lens. Between the two, the amateur has many styles of equipment from which to select according to his fancy and pocketbook.

My first experience with enlarging was at a friend's house. The equipment placed at my disposal was of the latest type and consisted of a powerful arc-light encased in a permanent lamp-house and fourteen-inch condenser which carried the light in parallel rays to the negative-carrier of the well-built enlarging-camera equipped with a high-grade anastigmat lens. The enlarging-board to hold the paper ran on a carefully graduated track which afforded an unusually accurate adjustment. Previous to my acceptance of my friend's kind offer to allow me to use his outfit, I read thoroughly a handbook devoted to enlarging. Indeed, so thoroughly did I read this book that I remembered whole passages of it verbatim. When the evening arrived for my initiation to the fundamentals of enlarging, I felt well qualified to undertake the matter alone. My friend introduced me to his equipment and explained every point in detail, then, in accordance with our agreement he left me to shift for myself.

Not being much of an electrician, I felt a bit nervous about switching on the arc-light. After some hesitation I managed to turn the electric switch. Immediately there ensued such a sputtering, clicking and hissing within the arc-lamp that I turned off the electricity in haste, half expecting to be electrocuted the next instant. At length, after several such attempts I discovered that after a moment or two the arc-lamp stopped its noise and buzzed softly to itself in evident contentment. All went smoothly until I was ready to fasten the bromide paper to the enlarging-board ready for the exposure. The lens had a cap; but if I placed it over the lens it shut out the image of my negative on the enlarging-board. Moreover, there was no way to determine accurately where to fasten the bromide paper so that it would receive the entire image of my negative when the lens was uncapped. By chance I found that my friend used a lens-cap of heavy orange glass which when placed over the lens protected the sensitive bromide paper from fog and, at the same time, allowed enough light to pass through to project the image of my negative accurately on the enlarging-board. Later I learned that this lens-cap was part of the necessary equipment and that in no sense was it an original idea. At length, I was all ready to make the exposure. My paper was adjusted, the image was focused sharply and the lens stopped down correctly.

With what I considered a deft movement, I removed the orange-glass lens-cap and began to count the seconds while the brilliant white image of my negative was projected on the bromide paper. So interested did I become in the evolution going on before me, that I leaned over inadvertently so that my head entered the beam of light issuing from the lens with the result that an excellent silhouette of myself nearly obliterated most of the enlargement. Again I made the attempt. This time I managed to keep my head out of the way; but in the flush of excitement over my success I immersed the exposed sheet of bromide paper in the fixing-bath instead of in the developer with the result that enlargement number two was ruined instantly. Just about the time my friend came down to find out what time I was going home, I managed to make one enlargement that might pass if examined hurriedly in a darkened room. Aside from the nervous strain I had undergone, during nearly three hours of "enlarging," I had burned up enough electricity to keep an office-building illuminated brilliantly the greater part of the winter and had spoiled enough paper and chemicals to make further enlarging out of the question, financially, for at least six months. Although my friend and I are on the best of terms, I have never received another invitation to use his enlarging-outfit.

To-day, enlarging is becoming increasingly popular. The advent and effectiveness of vest-pocket cameras have made enlarging fully as interesting and satisfactory as contact-printing. There are so many handy enlarging-outfits to be had at all prices, that the amateur's requirements, financially and otherwise, can be met readily and effectively. The camerist should not hold the mistaken idea that present-day enlarging is "messy" or too much for his limited photographic digestion. Any room may be used to do enlarging, provided that due care is taken not to injure the furnishings or the floor by careless manipulation of solutions. No branch of photography is more fascinating or interesting. There is nothing to match a well-made enlargement, suitably framed, for home-decoration. To the satisfaction of technical success must be added the perennial delight of personal association. As a big-game hunter displays his trophies of the chase, so the camerist takes pride in the enlargements that adorn the walls of his home. Needless to say, the enlargements that have associations, but not technical excellence, are hidden quietly in the ash-barrel and their coming and going is known to no man.

(To be continued)



WILLOWS BY THE WATERSIDE

WILLIAM S. DAVIS

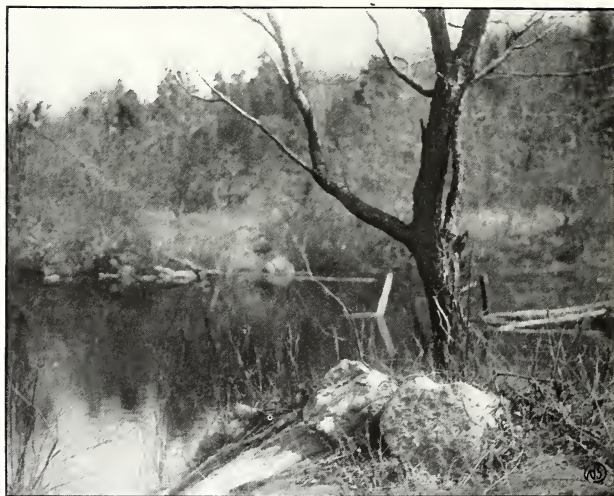
Using the Camera in Springtime

WILLIAM S. DAVIS

THE arrival of spring brings fresh opportunities to the camerist in the choice of subject-material. Likewise it brings a few technical problems, due to the changeable season with its swift variations in the color of the foliage, strength of light and atmospheric quality. Since these conditions are, indeed, the very essence of springtime-landscapes, one is well repaid for any attention one gives to the technical side of the matter by the results it is possible to obtain.

On one day, the air is keen and clear, with a stiff breeze driving the scurrying masses of white clouds over fields and hills. Perhaps, on the next day, and after a night of rain, one may find shimmering reflections of the dripping trees in roadside-puddles; and, as the sun breaks through the morning-clouds and warms the moist earth, the arising steam bathes the scene in a luminous mist which softens the hard

edges of even the nearest objects and, at the same time, subdues the receding planes still more, thus enabling one to obtain the much-prized aerial perspective in the picture. Even dull days, when everything is wrapped in a thick mantle of grayish-white fog, are productive of "effects" filled with pictorial possibilities; particularly, in neighborhoods where a few good foreground "bits" are ordinarily swallowed up amid a mass of distracting material. An architectural detail that has an attractive outline, when viewed *en masse*, is frequently presented most effectively against the soft-flat tones of a background enveloped in fog; and the perspective of a street-vista is nearly always improved by the presence of some haze. The same can also be said of woodland-scenes in early springtime—the softening-effect produced by an envelope of mist not only increases the tonal gradations by giving more differentiation between near and distant planes; but it lessens



EARLY SPRING

WILLIAM S. DAVIS

the probability that a harsh, scratchy, quality will appear in the rendering of the numerous bare twigs and branches.

The main difficulty to handle subjects that feature leafless trees lies in obtaining sufficient massing of tones to unite the various parts into an effective composition. The introduction of a picturesque tree-trunk as a prominent foreground-feature will sometimes prove an aid to the line-composition; but, in any case, one has often to rely a great deal upon transient effects of light and shadow brought about by the presence of clouds, or of shadows cast by nearby objects. In the case of open landscapes which lack interesting foreground-material, although possessing a good middle-distance and skyline, it is advisable to keep the skyline low in the composition and to devote the greater space to a good cloud-effect, such as is seen frequently on a windy spring-day. Subjects of this character are very expressive of one phase of spring-time-weather.

As the season advances and the fresh leaves appear, there are numerous chances to make most delicate foliage-studies. At times, the

pale yellow-green tones in the sunlight are of nearly the same value as the gray-blue of the sky, which, although requiring care in treatment to avoid flatness and still suggest the delicate differences, allows the working out of attractive tonal schemes. However, one must be on his guard against being deceived by *color-contrast*, which under these conditions may be quite different from the *tone-contrast* between parts of a subject. The hazy sunsets of springtime offer still another subject worthy of attention, either in connection with an open-landscape or as a background to a screen of trees.

So far, I have said nothing about subjects other than landscapes which are expressive of the springtime-spirit; but the searcher for genre-compositions cannot fail to see possibilities around a farm, where the various operations of plowing, sowing, etc., afford a wide range of figure and animal-grouping in a landscape-setting. Then, too, the flower-lover will surely enjoy making seasonable studies of the early wild-flowers and various stages of plant-growth and tree-branches in blossom. Simplicity of



CHERRY-BLOSSOMS

WILLIAM S. DAVIS

treatment is the great essential when dealing with plant-subjects of any kind; and as this cannot always be obtained when photographed amid their natural surroundings, it is sometimes necessary—if an artistic result is desired—to bring the specimens indoors, or otherwise transplant them, where a suitable background can be provided and the composition studied at leisure. Although trees in blossom are most enticing to the eye, they seldom make a satisfactory picture in their entirety. The absence of color in the finished print, combined with the great amount of scattered minute detail, fails to perpetuate the original impression received. For this reason, it is better to use only a branch or two—either in the open or indoors—and to work for pictorial quality of line and tone-spacing. As many workers have demonstrated, the results so obtained may be very beautiful and satisfying in their suggestion of spring; and the

training in composition derived from handling material that is controlled in arrangement and in lighting is valuable to the worker.

So far as the photographic technique is concerned, there is not so much to be said to apply especially to work in springtime. Although color-sensitive plates or films are not essential during the early part of the season, I would advise their use. As more color becomes apparent with the growth of foliage and plants, a ray-filter should be used when practicable; its employment is especially essential when delicate relative values between pale greens and blue sky must be rendered carefully. Late in the afternoon, when the air is filled with sunlit yellow haze, the quality of the light often acts much in the same capacity as a ray-filter by subduing the blue rays in the atmosphere, to which photographic emulsions are abnormally sensitive. When a ray-filter is not used under such conditions, it is necessary to give about the same increase in exposure as a filter usually requires—even though the yellow sunshine appears bright



THE WILLOW-TREE

WILLIAM S. DAVIS



YOUNG FOLIAGE

WILLIAM S. DAVIS

to the eye. In this connection, I may say that it generally seems to be a fact that the actinic value of light of the same *visual* luminosity on a hazy or foggy day is greater in the morning than when the sun is at a corresponding angle above the horizon in the afternoon. In other words, the afternoon-light is usually more yellow than the morning-light.

To preserve the characteristic tonality of gray tree-trunks and the net-work of branches, a rather short scale of middle-tones must predominate in a picture; consequently, a full exposure should be given whether or not it is deemed essential to employ a ray filter. In many cases, a delicate diffusion of focus seems to help to suggest the soft, vaporous quality of atmosphere so often seen on quiet spring-days. There are several ways to obtain this—either in the negative or during printing—without resorting to the use of special soft-focus lenses,

although these are quite suitable if at hand. A simple method to obtain general softness in the negative with any ordinary lens is to stop down considerably, and then to rack out the lens beyond the point of sharpest focus until the desired degree of diffusion is seen on the focusing-screen—the size of the stop determines the proportionate amount of diffusion in the various planes of the subject. When printing by contact, one or two sheets of celluloid interposed between negative and paper may be tried. An enlargement, especially upon rough paper, can be given pleasing softness of definition by putting the lens of the enlarger very slightly out of sharp focus. The main point to bear in mind, in all cases, is to suit the mode of treatment to the theme to be expressed. Neither soft-focus nor a sharp image is artistic in itself, although either may be an aid to that end, according to the effect required or the thought to be expressed.

A Talk About Lighting

PRACTICUS



LIGHTING the sitter is one of the most difficult subjects to discourse upon that could well be chosen, for so narrow is the margin between success and failure that it is not possible to give definite rules which will ensure the same results under different conditions; in fact, so far is this true that there is a legend that one successful portraitist abstains from having his windows cleaned lest the lighting should thereby be rendered too hard.

Nearly every competent writer on the subject has recommended the study of lighting to be begun with a plaster-bust, and with this I agree heartily. The only thing better would be to follow the example of Adam Salomon and have life-sized wax-figures with hair and clothes complete. A life-sized bust is not an expensive luxury, even in war-time, for I recently purchased one near Hatton Garden for five shillings. It was the head and shoulders of Gibson's Venus, and has not special pretensions to classical beauty; it is just a moderately good-looking young woman with a well-balanced head upon her shoulders. Busts with the head in unusual positions should be avoided, as the lighting which might suit them will not be useful for sitters.

Having procured our bust, the first thing to be done is to give it a coat of buff or very pale terra-cotta distemper, so that the light-values will be about the same as those of the living model. This is very important, as white plaster reflects far too much light for our purpose. The reason that I advocate the use of a bust instead of a living sitter is that the latter cannot keep still for the time required for study, and the student will quickly see how a slight movement of the head upsets all his plans for obtaining a certain effect.

The bust must be placed on a table so as to be about the height of an ordinary sitting figure, and in front of a plain, medium-toned background. It should be in such a position that a high sidelight falls upon it, the light being rather to the front of the object. In an ordinary span-roof studio this would mean that the dark blinds or curtains would be drawn over one end of the studio, both top and side, for about five feet. The bust should be about three and a half feet from the end wall, the next blind should be half-down and the next quite open; the sidelight is obscured up to nearly five feet from the ground, and is open for about a six-foot run. If we

now examine the lighting, we shall find it fairly round, but rather contrasty. This is all for the best, for we can see readily the effect of altering the positions of the bust, the blinds and the camera respectively. One golden rule—by whom written originally, I know not—is that “light from the sitter's end of the studio gives contrast, whereas light from the camera-end gives softness.” I cannot impress this fact too strongly upon the beginner. In ordinary circumstances, if the lighting is too harsh, open more blinds over the camera-end; if too soft, close them over the camera and open them near the sitter. This one rule is the key to simple lighting, and its application will prevent much floundering in the early stages. If we do not want to alter the blinds, we may move the sitter; if she goes further under the dark blinds, we get softness; if she comes forward, we get contrast.

Excess of top-light is the most common fault in portrait-lighting; but there are times when top-light is needed. A flat face with insignificant features calls for it, as Mr. H. P. Robinson says: “I think that I should use a good deal of vertical light in making the portrait of a Chinaman.” If the sitter had strong features and deep-set eyes, such a lighting would be disastrous. We may now try the effect first of turning the bust to and from the light, and we shall see quickly how the modeling of the face is affected. As we turn the nose to the light, the further cheek becomes illuminated, whereas if we turn it away, it sinks into shadow. I would ask you to remember that neither the camera nor the sitter is screwed to the floor, so that you can obtain the same position of the head, but with very different lightings, by turning it until the desired effect is obtained, and then placing the camera in the position whence you observed it. Always keep your eyes open for accidental effects of lighting, and note the sitter's position in the studio for future use; some of these “observed” lightings are much better than those that are carefully arranged. I have found nearly always that the effects obtained with only dark blinds and clear glass are rather too vigorous for the ordinary run of work; hence it is very desirable to have in addition very thin white blinds or curtains so as to diffuse the light a little and tone down the glaring effect of the highlights. If there are no white blinds, an ordinary circular head-screen covered with thin cheese-cloth or pale-blue nun's veiling is very useful. The nearer

this is placed to the sitter, the softer will be the lighting, and vice versa. In studios which are so placed that direct sunlight falls upon the glass during any period of the day, white blinds should be used to cover all the glass. I have worked in this way in a studio that faced due west, on which the sun shone from 11 A.M. until evening. In such a studio, we must not have too large an expanse of white-covered window open at once, or we shall get flat negatives.

A point which should never be lost sight of, is that the actual design or pattern of the studio is of no moment. So long as the light can be made to fall upon the sitter at the desired angle, ridge-roof, single-slant, top-light, high sidelight will all give the same result, if handled properly. Much more depends upon outside influences; trees, walls, other buildings all serve to modify the lighting, and an arrangement of blinds that will suit the sitter in one studio, may fail to do so in another which is differently placed.

A lofty studio is not to be desired. I remember one clever photographer who said that he would work under a cucumber-frame, if he could. In a high-roofed studio the light is very difficult to control, as it is too far away from the sitter. Even, soft effects are obtained easily, but when any decided lighting is needed, it becomes necessary to close all the blinds and to use only the sidelight, and that only in a limited area.

A few words on unusual forms of studio may not come amiss. When working in a studio which only has top-light, the sitter must be placed well back under the dark blinds, and plenty of light admitted from the camera-end. It is also often advantageous to turn the sitter slightly to one side of the studio and to work the camera close to that side of the studio towards which he is looking, the background, of course, being placed diagonally across the corner. In a studio with only a high side-window, it is often necessary to place the sitter as close to the window-side as possible, so as to get the effect of top-light. If too low a sidelight be used, the eyes are filled with light and look flat. What is sometimes called a "miniature-painter's light" is a high frontlight. This gives a very even illumination of the face, but if managed properly, there should be sufficient shadow on one side to avoid flatness. If it be desired to copy the lighting in an existing photograph or even a painting, if by a good artist, the spark of light in the eye forms a reliable guide as to the position of the dominant light. If this be high or nearly in the center of the top of the iris, in the position of 11 o'clock on a watch-dial, for instance, it denotes a high front-light, if in the position of 9 o'clock a low sidelight, and so on. In some fancy lightings, it may even

be at 6 o'clock, which shows that the light comes from below.

I will now deal briefly with screens and reflectors. The head-screen I have already dealt with, as far as lighting the features is concerned, but it has other uses, such as subduing the light on white drapery. Nothing is more objectionable than to have a white dress brilliantly illuminated, making the face appear too dark and receding into the background. By use of the small head-screen this may be avoided, the shadow being cast where required. In some cases, a screen covered with a thin, open, black material is useful, as it will cast a shadow without diffusing white light in other directions. Reflectors are usually relied upon too much; only when the lighting is nearly satisfactory, but the shadows are too dark, should they be introduced, and then not placed close up to the sitter. In this position they destroy all the modeling on the shadow-side and give an unnatural appearance. It is unfortunately too common for the operator to make a hard lighting and then to use the reflector to even up the face. This is wrong, as it does nothing to subdue the overlighting on the other side. There is no need to be afraid of using a screen or white blind to soften the high-lights, as it does not cut off any light from the shadows which are still receiving frontlight and reflected light from the studio. If the same exposure be given with the highlights screened, the negative can be developed for the shadows without the highlights blocking up.

In conclusion, I would caution the beginner against judging lighting by the eye alone. The negative is the only test. The plate does not see the sitter always in the same way as the operator does. Some plates have a tendency to intensify the light, whereas others soften it. The lens also has a say in the matter, a short-focus lens usually giving a more brilliant negative than a long-focus one does. This is due partly to scattered light in the studio, but it seems also to be caused by the distance between lens and plate. Naturally, the operator will see that his lens is clean, his camera blacked well inside and his darkroom-light beyond suspicion, before he begins work, or he is simply inviting failure in any attempt to obtain good lighting.—*The British Journal*.



ORIGINALITY in art is a quality eagerly sought, but never attained through seeking. It is an endowment, not an attainment.

Duncan Phillips.



EDITORIAL



Photography as a Safeguard

IT is asserted that the war has been won by photography. Whether this is actually so or not, it cannot be denied that photography has contributed in a very large measure to the magnificent success achieved by the Allied forces. This was shown clearly by the remarkable results accomplished by the aerial photographer, as described in the November issue of this magazine. Although these achievements form one of the most brilliant chapters in the history of photography, there are pages still to be written—trivial by comparison, to be sure, but pages which will record the application of photography in several important fields. One of these is photography as a safeguard, or as a means of identification. The use of a portrait-photograph as a part of a passport, or of a card of admission, is no longer a novelty; but there are many ways in which this practice can be extended.

First of all, is the consideration of the home. Every well-regulated family should have on hand as an immediate means of identification—in case of an accident or sudden death—a good photograph of every one of its members. If the family contains a large number of children and, for financial reasons, individual professional portraits are out of the question, recourse may be had to one group of the entire family with as many prints as there are members of the group. These photographs should be easily accessible and serve exclusively the purpose of identification. Almost every first-class illustrated newspaper should be able to reproduce, and publish as an individual portrait, any member of the group. It is also well not to depreciate the popular snapshot—the souvenir of a picnic-party or some other joyful occasion. It may be a godsend in the absence of a professional portrait. Similarly, to trace a family-pet that is lost, strayed or stolen, by means of an available photograph, should be an easy matter.

The owner of a valuable violin, for example, has every reason to feel apprehensive until he owns a good photograph of his treasured instrument which, if stolen, can the more readily be recovered. He knows that a precious Cremona has a way of disappearing mysteriously and of making very long journeys. A photograph that records the grainy surface and other characteristics of the instrument, will con-

tribute greatly to a successful search. The same is true of an art-collector, who should have an album or portfolio of photographs of all his works of art, which will prove extremely useful in the event of loss by theft or fire. Or, should he lend a collection of his paintings to an art-museum, or an art-club, the album of photographic reproductions, together with written data regarding the history of each painting, will be a source of interest and add to the enjoyment of the pictures.

Photography may also serve to correct a source of discontent that prevails in social clubs having a large membership. On the occasion of a popular entertainment it often happens—unless strict watch is kept at the entrance—that uninvited guests gain admission and occupy seats to the exclusion of members who are obliged to stand. If a collation is provided, at the conclusion of the entertainment, these intruders—usually blessed with healthy appetites—aid materially in the astonishingly rapid disappearance of the refreshments, and the member who is inclined to be deliberate is thus deprived of his share of the repast. If every member in good standing were provided with a membership-card bearing his own photograph and he were obliged to show it when entering the club-house, or the auditorium on the occasion of a popular event, the trouble with intruders would soon be remedied. It would also prevent a thoughtless member from lending his membership-card to a friend—a challenge and a discovery, and the expulsion of the offending member would result.

Election-frauds, if not entirely preventable, can at least be greatly diminished by the aid of a system of cards each bearing a clear and fairly recent photograph of a voter, as well as his name, age and address. With the use of the Australian ballot—or any other good voting-system—one such photographic card-index can be utilized when the voter is given his ballot, and another when he deposits it. Voting on the names of dead men or of men unable to come to the polling-places, would thus be made virtually impossible, unless the election-officers fail to do their duty. The responsibility to provide suitable photographs of standardized size should fall upon the voters, thus saving the municipality or township considerable expense and also preventing a new system of private and official graft.



ADVANCED COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.

Prizes

First Prize: Value \$10.00.

Second Prize: Value \$5.00.

Third Prize: Value \$2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, **but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.** Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.*

4. *Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print exactly for what competition it is intended.*

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with double thicknesses of **stiff corrugated board, not the flexible kind—or with thin wood-vener.** Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—The Spirit of Christmas Competition Closed January 31, 1919

First Prize: None awarded.

Second Prize: Dr. Charles B. Piper.

Third Prize: Mr. W. Stelcik.

Honorable Mention: Lilian A. Guernsey, Paul Harrison, G. H. McKelway, K. A. Kjeldsen, R. J. Morrow, Louis R. Murray, Kenneth D. Smith, Leopold Zwarg.

Subjects for Competition—1919

"The Spirit of Winter." Closes March 31.

"Rainy-Day Pictures." Closes April 30.

"The Spirit of Spring." Closes June 30.

"Miscellaneous." Closes May 31.

"Rural Scenes." Closes July 31.

"Shore-Scenes." Closes August 31.

"Outdoor-Genres." Closes September 30.

"Architectural Subjects." Closes October 31.

"Domestic Pets." Closes November 30.

"Indoor-Genres." Closes December 31.

1920

"The Spirit of Christmas." Closes January 31.

"Still-Life." Closes February 28.



Photo-Era Prize-Cup

IN deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize (\$10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.



Volatile Liquids.

AN important word of caution appears in *Photography* with regard to inflammable liquids. Bottles containing volatile liquids, especially liquids which give off inflammable vapors, should never be placed on a high shelf, but on one near the floor. The reason for this is that the temperature near the ceiling of a room is often very much higher than is realized by those below: and the pressure which is thus caused inside the bottle has more than once caused such bottles to burst, sometimes with serious results. Even if it did not, it might lift the stopper.

SECOND PRIZE
SPIRIT OF CHRISTMAS



"NOW FOR HOME!"

CHARLES B. PIPER

Advanced Competition—Miscellaneous
Closes May 31, 1919

EACH year the Miscellaneous Competition offers the camerist a sort of pictorial safety-valve. By that I mean, that the camerist is unfettered photographically with regard to the subject he may send in for consideration. If for any reason, the subjects listed in PHOTO-ERA for competition fail to please him or if he is unable to meet the conditions imposed, the present competition gives him *carte blanche*. In popular parlance, "the lid is off" with regard to subject. Needless to say, interest of subject—whatever it may be—originality of subject, composition and technical excellence will weigh heavily with the jury. In short, because the camerist is at liberty to select his subject, it does not follow that he is free to ignore artistic judgment and technique.

Although landscapes are always of artistic value and interest, it should not be inferred that home-portrait, outdoor and indoor-genre, still-life, marine, camp, architectural, nature, speed and other pictures are un-

welcome. The intelligent and well-equipped camerist need not go far to obtain real pictures of permanent value to himself and to others. However, "record" photographs are not desired in this competition. Try to decide whether or not the photograph you intend to send is of more than personal or local interest. This particular point is one for every camerist to remember in all his work for public exhibition at camera-clubs or in the press. Remember that there is a great world beyond your horizon that cares nothing for you unless you touch a sympathetic chord—something in common with what we can all comprehend and enjoy.

The Miscellaneous Competition offers an exceptional opportunity to the ambitious worker who is waiting for the psychological moment to enter the ranks of the "arrived" pictorial and technical photographers. There are many readers of PHOTO-ERA who have profited by our efforts to make photography—artistically and technically—appeal to the man or woman who desires a mode of expression that meets, in great measure, the yearning for the highest and best in art and nature. We admit that we do aim high. Some-

times, we are reminded to "come back to earth"; nevertheless, we have noticed that many beginners have become first prize-winners in these competitions and that they have given our editorial efforts full credit for their own steady progress and final success. Now is the psychological moment for ambitious beginners who have won their spurs in the Beginners' Competitions to enter the larger field offered by the present competition. Professional photographers, likewise, have an excellent opportunity to try their strength against many of the best amateur and professional workers in the United States and Canada. A reference to the rules which govern this and all Advanced Competitions will show that every photographer in good standing—amateur or professional—is welcomed heartily to any or all of these competitions.

The matter of the best presentation is one that demands your best critical judgment as well as your best executive ability. A print may be faultless, technically, and yet fail to make the right impression on the beholder. On the other hand, a print which in reality is faulty on the technical side may be filled with poetry and mystery—gaining and holding the interest which the merely literal could never arouse for a moment. It may be seen that this Miscellaneous Competition is not merely an opportunity to get rid of such prints as may be lying about the house. Above all, remember that your picture represents *you*, and that it will make its appeal in proportion to the time, thought and skill that you put into the making of it.

True art comes first from the heart and then from the mind. Technical knowledge of composition is invaluable as a *means* to express that which is beautiful, true and spiritual; but remember that of itself the technical is cold and lifeless. Your pictures may be perfect in workmanship, but if they fail to inspire, please or otherwise move the beholder, they have not, and you have not succeeded in true artistic photography. Emphasis is placed purposely on this point because of the many who fail to realize its truth. Conversely, it does not follow that because you are not a professional photographer you are incapable to produce winning pictures. Look to the inspiration of your effort. If it be strong, fine, true, beautiful and pure, you cannot fail. Such trivial technical mistakes as you may make are lost sight of in the appreciation of the appeal that you have tried to make with the knowledge and equipment at your disposal.

Whatever subject you select, do not forget that the things that are truly great are invariably simple. One flower-study beautifully composed is worth a dozen flowers grouped in awkward fashion. Likewise, one landscape that conveys one distinct impression to the beholder is worth many that may contain three separate compositions absolutely unrelated. It is very much like trying to see how many persons you can include on the plate or film—invariably some one's head or foot is omitted and the result is neither a group nor a portrait. Strange as it may seem, the simpler the composition, the more difficult it is to perpetuate. Those who may doubt this assertion will do well to try to photograph one flower, apple, vase, pair of gloves, tree, person or animal and make such a picture a delight to the eye.

Human nature is ever an interesting study. Often, it strives to attain freedom of action and thought, only to be nonplussed by the very freedom it has sought. As applied to these competitions, contestants sometimes write that for us to specify what the competitions shall be is a mistake, and that it has a tendency to nip photographic talent in the bud. Although it may be true in certain cases, we are still unconvinced that our

statement in advance of subjects for competition is not the best method to pursue, after all. This Miscellaneous Competition is an excellent opportunity for those who may have felt hampered by our restriction of subjects. Needless to say, we are endeavoring to have these competitions serve our readers' interests to the very best advantage. If, inadvertently, we have suppressed the pictorial ambition of a budding genius by our usual method of classification, the present competition will offer him a much-coveted opportunity.

Indeed, we hope that all the pent-up pictorial emotions of many of our readers will find an outlet in a true and beautiful expression of the photographer's love of nature, humanity and spirituality. This competition represents the freedom of thought and action that some of our readers have hoped to obtain. It will be interesting to study carefully their pictorial use of this greatly desired freedom. In photography, as in other lines of endeavor, we turn instinctively to those subjects that we love most whenever we have the opportunity to do so. Unconsciously, we reveal a bit of our true character in so doing. Photographically, and otherwise, this is what we hope will make the present competition particularly desirable.

In view of the fact that this Miscellaneous Competition is the only one of the kind in 1919, we are especially eager to have our friends and readers avail themselves of the present opportunity. We are convinced that the time and effort required will be more than repaid by the possibility of winning a prize, and by the certainty to give not only themselves but others many pleasant and profitable hours of pictorial delight.

A. H. B.

Plateholders out of Register

IN three out of four studios that I have visited in the course of the last year or so, I found the plateholders of the camera in general use out of register with the focusing-screen. The present use of rapid plates enables the photographer to use diaphragms to an extent that disguises considerably the lack of fine definition, resulting from the plate not being truly in focus. In the days of wet-collodion—when, in order to obtain a portrait free of the unsharpness, due to movement of the sitter, it was the custom to use the lens at full aperture or nearly so—photographers had to be, and were, careful to see that their plateholders were accurately in register with the focusing-screen.

Although the lack of sharpness in the negative, due to the plateholders not being in true register, is less conspicuous when using the smaller apertures to which the use of rapid plates has accustomed us, it is still very desirable that the coincidence of position of the plate and the focusing-screen should be as complete as possible. This is advisable if only for the power obtained to get properly exposed results with the shortest exposures, particularly in the case of portraits of children. A photographer, the proprietor of a high-class establishment, doing a large business, writes me that since the correction of his plateholders his operator generally takes portraits of children with the open lens with excellent results, and with fewer failures and consequent economy of time and plates.

The plan which I employ to ascertain the accuracy—or lack of it—of the registry of the plateholders, is to take a strip of wood about three-eighths or one-half of an inch in thickness—rather longer than the width of the slide—and to drive a screw through it. The strip is laid across the front of the frame of the focusing-screen, and the screw advanced until the point just touches the

THIRD PRIZE
SPIRIT OF CHRISTMAS



UNDER THE CHRISTMAS-TREE

W. STELCIK

screen itself. A plate is now put in the plateholder, and the slide is drawn. The strip is then laid across the front of the slide, and if it is in true register, the screw-point will just touch the plate. It is desirable to repeat this trial with the plate placed both vertically and horizontally, and with each carrier that may be in use with the slide. A waste negative is better than a plain glass for the purpose, as a faint scratch on the film will indicate very closely the coincidence of the two surfaces.

The reason for having the wood a little longer than the width of the slide is—as I have found in one or two cases—that the top or bottom or one of the sides may be higher or lower than the opposite side, and the extra length of the wood allows the screw to be tried on different parts of the plate. The screw is inserted at the place where it will come over the middle of the screen when one of the ends of the wood is just at the outer edge of the frame. This arrangement allows full use to be made of the extra length of wood for the testing the accuracy of adjustment away from the center of the screen. The extent of deviation from coincidence is ascertained by placing slips of card of different thicknesses between the point of the screw and the focusing-screen, or the plate as the case may be, until a piece is found of a thickness that just fills the space.

If it is the focusing-screen that is found to be nearer

to the front than the plate, a cardboard-matte is cut of the same size outside as the ground-glass; about a quarter of an inch wide all round except at the corners, where it is rounded inside for strength. A photographer generally has a stock of old mounts of various thicknesses; but if there is not one of just the thickness required, one or more thicknesses of cartridge-paper may be pasted on to a thinner card, and when dry used for the purpose. The card-matte is dropped into the frame, and the glass replaced and the slip-beading pinned in again.

If it is the plate that is too near the front, slips of card are glued on all round to the rabbet of the plateholder. It may be that some of the carriers may require adjustment independent of what has been done to the plateholders. In this case they may be tried by gluing slips of card along the edges of the front, or, if the error is in the other direction, by reducing the thickness of the wood in the same place.

Of course, a neater job may be had by sending the slide and frame of the focusing-screen to a camera-maker or to an intelligent cabinet-maker, if—which is not often the case—the camera can be put out of use for the time; but the home-cure method described has answered perfectly well.

W. E. DEBENHAM, in *The British Journal*.

Dry-Mounting without Press or Tissue

No doubt in many respects dry-mounting by means of hot press and tissue is ideal; but it has the disadvantage of being rather expensive; and that, to a great number of photographers, is an insurmountable one. Not only is the initial outlay somewhat heavy, but there is a constant expense for heating and tissue. The method of mounting which it is proposed to describe is cheap, convenient, and requires no more expensive apparatus than an ordinary domestic flat-iron. Moreover, there is no bending or cockling of the mount, which last statement can be made of very few mountants in which water—in even small quantities—forms an ingredient.

The principle of the process is this: that when shellac is heated to about the temperature of boiling water it melts, and becomes very "tacky" at the same time. If, then, we give the back of the print a coating of shellac; and, when in contact with a mount, heat it to a temperature of 100° C., the print and the mount adhere, and a mounted photograph is the result. Moreover, since there is no evaporation of water there is no contraction, consequently no cockling, and the print and mount lie perfectly flat. This sounds, and is indeed very simple; but, like most simple things, there is a right and a wrong way to do it; and the writer wishes in this article to help fellow-photographers to avoid some few pitfalls out of which he has climbed during his experiments with the process.

The first thing is the making of the solution of shellac. Obtain one-quarter of a pound of common brown shellac, place it in a bottle, and pour in methylated spirit until the shellac is about half to two-thirds covered; that is, there should be eight ounces or nine ounces by volume of solution when the shellac is completely dissolved and thoroughly incorporated with the spirit; and the solution should run easily, but should be much more viscous than water. The shellac takes some twenty-four hours to dissolve, and the best way to hasten the process is to place the bottle in some warm position, such as the kitchen mantel-shelf, giving it a thorough shaking from time to time. For several reasons, a wide-mouthed bottle is most convenient to use.

The next step is the application of the shellac-solution. This should be done *before* the print is trimmed to the required size. It does not matter then if a little of the shellac creeps over the edge of the print onto the image-side. The solution is applied with a soft hair-brush about three-quarters of an inch wide, and a fairly thin, even coat is given to the back of the print. It is well not to err on the "over" side, otherwise when the heat is applied to the print the shellac will begin to ooze round the edge, and in the case of self-toning papers if there is too much methylated spirit present, it will begin to dissolve the film itself. This, by the way, is one reason why the shellac-solution should not be too dilute; another is that with insufficient shellac present, proper and *permanent* adhesion between print and support does not take place. If by some inadvertence a little of the shellac has found its way on to the surface of the print, it can be removed easily in the case of bromide and gaslight papers or printing-out papers by rubbing gently with a tuft of cotton moistened with methylated spirit; but this is impossible with most self-toning papers, as already shown, and it should be attempted very carefully with carbon and platinum-papers to avoid serious damage.

When the shellac is applied, the print should be left to dry for half an hour, and it may then be trimmed and mounted at once, or left for a few days or even

several weeks, for the mounting. In this respect the process is very convenient, for a number of prints can be coated with shellac in a few minutes, and then left for an opportunity of greater leisure for the final operations. It should be noted, however, that the prints appear to adhere to the mount with the maximum of ease when the coating and mounting are done on the same day.

Now to the actual mounting, and in this part of the process there are more precautions to be taken than in any other; but after the first attempt or two, they become a matter of routine. The "press," as has been already intimated, consists of an ordinary flat-iron, but if it is equipped with one of those nickel-plated shields, it will be found much cleaner and more convenient to use. The iron is heated in the usual house-wife's way, on the gas-range or on the stove, but not to so great a temperature as is necessary for domestic use. If too hot, there is a tendency to burn the shellac instead of merely to melt it, and the print curls so violently that it is difficult to make it lie flat on the mount. If the iron is too cold, then the shellac does not melt properly: it is difficult to get the print and the mount to adhere at all, and often enough, when cold, the print breaks away from the support, either in places or altogether. The right temperature is reached when, if the iron—without shield—is placed ten inches to a foot from the cheek, the heat radiating from it is just perceptible to the face. About twelve prints $3\frac{1}{4} \times 4\frac{1}{4}$ can then be mounted before the iron becomes too cool. For a large number of prints, two irons worked in relays is a convenience.

To iron down the prints, a firm flat support, such as a kitchen-table, is necessary, and it is well to place on the top three or four thicknesses of paper which have been thoroughly warmed before the fire to drive out absorbed moisture. Between the print and the iron there should be a sheet of *plain*, thin paper, otherwise the iron will leave shiny marks on the print. This sheet of paper must also be thoroughly dried, by running the iron several times over it, to obviate any danger of its sticking to the print. Now, having made all preparations—which, although apparently numerous, in reality take but a few moments—the mount is put on the table, the print placed in position and held there while the sheet of thin paper is put on, and the hot iron passed steadily all over it—in a large print starting from the center and working to the edges. After the iron has covered the whole surface, raise the paper to see whether the print has adhered everywhere to its support, and if some corner or edge is still unattached, apply the iron with a moderate pressure for a few seconds particularly to that place. Sometimes, if the iron is a little too hot, it will cause the print to curl up. A gentle pressure of the fingers at the point will make it stick down properly as the shellac becomes cooler and more "tacky."

In using this method for *passee-partout* work—and for this it is particularly suitable—it is best to attach only the top edge of the "auxiliary" mounts and print, since the pressure of the glass ensures them lying flat when bound up; but care should be taken to dry the mounts well before ironing down, otherwise a little buckling will take place, owing to the rapid evaporation of absorbed moisture contained in the paper.

Perhaps it is hardly necessary to add that the print may be removed from its mount at any time should this be required, by passing a hot iron over the face of the print and then gently pulling it away from the mount, as the warmth makes the shellac melt.

W. J. CHERRY, in *The Amateur Photographer*.



THE CRUCIBLE

A MONTHLY DIGEST OF PHOTOGRAPHIC FACTS
With Reviews of Foreign Magazines, Progress and Investigation
Edited by A. H. BEARDSLEY



Amidol versus M. Q. for Bromides

WE have heard many discussions amongst professional photographers as to whether Amidol or M. Q. is the more suitable for bromides, and there appears to be considerable divergence of opinion. While many workers are producing perfect results with Amidol, we are inclined to think that from a commercial point of view the M. Q. developer is to be preferred. The quality of blacks produced by either is equally good, and the tones in the sulphide or hypo-alum baths differ very slightly.

With Amidol, a great deal depends upon the skill and care of the worker in daily compounding the developer accurately, whereas the M. Q. can be made up in large quantities of constant strength and stored for convenient use—a point that will be appreciated by those who run more than one studio. The disadvantages of using Amidol are, for brevity's sake, tabulated below, and in common fairness we will admit that most of these can be met by the careful personal attention of the skilled man. It is needless to call attention to the great value of technical photographic knowledge.

1. Temptation to guess the proportions of Amidol, Sulphite, Potassium Bromide and Water.
2. Bad keeping-qualities of the mixed bath, and the daily risk of particles of dry Amidol settling on drying prints or negatives.
3. Great susceptibility to the action of potassium bromide, consequently when large batches are developed, the liberation of bromide from the paper introduces an element of uncertainty.
4. Rapid contamination of the fixing-bath, unless the prints are washed after development, and risk of staining the gelatine or paper base.
5. Quick staining of the fingers and finger-nails.

With M. Q., the making-up of the developer can be a once-a-week job, by the darkroom expert, if possible, making the solution double strength and storing it in 80-oz. bottles. There is no daily weighing out or measuring, as the developer only needs mixing with an equal part of water when required for use. The strength is constant, and the prints can be developed by time, a method that produces perfect results. The fixing-bath does not become quickly discolored, nor are the finger-nails stained.

The formula for M.Q., recommended for use with papers and postcards is:

Monomet	1 oz.
Hydrochinone	4 oz.
Sodium sulphite (crystals)	2 lbs.
Sodium carbonate	2 lbs.
Potassium bromide	1½ ozs.
Water	4 gallons

Obtain a three-gallon jar three-quarters full of hot water, add the Monomet first, stirring until dissolved, then add the Hydrochinone, sulphite and bromide, stirring until all is dissolved. Add the carbonate last. Have eight clean 80-oz. bottles at hand, and with a measure or bottle fill them to equal height with developer. Then add water to fill the bottles and stopper them.—*Rajar, Limited.*

Luminous Wrist-Watches Fog Plates

THE convenience of the luminous wrist-watch is proved by its use in the military forces at home and overseas. Many of these watches are now used by civilians, including amateur and professional photographers. According to *The Amateur Photographer* an experimenter was amazed to discover to what degree the luminous watch affected a sensitive plate or film in the darkroom. Among other things, the experimenter found that if such a watch was exposed for one minute to an undeveloped plate, a clear image of the dial appeared when the plate was developed. Even when a plate was protected by black paper, the effect of the luminous wrist-watch was apparent; although, of course, after much longer exposure. Twenty-four hours after a plate was exposed to a luminous wrist-watch a blackening of the plate corresponding to the shape of the dial was noticeable. Cardboard and tin-foil failed to offer protection. It is evident that the radio-active rays from luminous wrist-watches have a high degree of penetration.

Ghost-Images or Flare

It is a fact that many of the finest pre-war anastigmats frequently give both ghost-images and flare when used on subjects which throw a strong light into their glasses. The defect is much less often met when single lenses or the single components of convertible anastigmats or rapid rectilinear lenses are employed. "Ghost-images" or "flare" are regarded by many photographers as being the more likely with lenses having many glass-to-air surfaces; and, as a matter of fact, although not as a general rule, the more of these surfaces there are in the lens the more likely is the defect to be in evidence in certain classes of work. It is not realized as well as it might be by those who possess anastigmats which exhibit flare or ghost-images that much may be done to assist in eliminating these defects if the lens is provided with a sufficiently deep hood. We have in our own possession an anastigmat with no less than ten glass-to-air surfaces, and invariably when this lens is used against the light—or under like conditions—the defects are sure to manifest themselves; yet, when the front glass is shaded with a deep and efficient hood we have never had the least reason to complain. The rarity of ghost-images or flare when rapid rectilinear or single lenses are used may be traced in part to the fact that with the former class the hoods are much more efficient; with regard to the latter, when the single components of the convertible anastigmat are employed it is nearly always the front lens that is removed, and thus the mount of the lens serves as a highly efficient hood for the back glass.

The British Journal.

To Safeguard Important Keys

IMPORTANT keys are usually flat. Photographic reproductions are good to have in one's wallet in case of loss. These are quickly made by substituting the key for a negative in a printing-frame. The developed print will show the keys as if on solid black background.

The Sabcan.



BEGINNERS' COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.

Prizes

First Prize: Value, \$2.50.

Second Prize: Value, \$1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is "*Miscellaneous*"; but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than *two* years' practical camera-activity, and whose work submitted here, is without any practical help from friend or professional expert. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from $2\frac{1}{2} \times 3\frac{3}{4}$ to and including $3\frac{1}{2} \times 5\frac{1}{2}$ inches, and enlargements up to and including 8×10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data. Criticism on request.*

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives after he shall have received official recognition.

7. *Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print for what contest it is intended.*

8. Competitors are requested not to send prints whose mounts exceed about 11×14 inches, unless they are packed with double thicknesses of **stiff** corrugated board—not the flexible kind, or with thin wood-vener. Large packages may be sent by express.

Awards—Beginners' Competition

Closed January 31, 1919

First Prize: Alfred S. Upton.

Second Prize: T. P. Payne.

Honorable Mention: A. Dubee, Henry A. Pratt.

The Photographic Awakening

ALTHOUGH the number of all-the-year-round amateur photographers is on the increase, the fact remains that most camerists confine their photographic activities to the spring, summer and fall seasons. For this reason, April virtually marks the beginning of the amateur photographic season in the greater part of the United States and Canada. Those who have joined the ranks of beginners are eager to make their first exposures out-of-doors under balmy spring-skies. In short, this month there is a stirring about and a general restlessness among all lovers of the camera and nature. In the parlance of sportsmen, we are all more or less afflicted with photographic "spring-fever."

Virtually all successful human activities have their inception in careful thought and planning. The amateur or beginner who is really desirous to make a success of his camera-work during 1919 should take himself aside and ask, "Do you consider your camera a plaything or do you see in it wonderful possibilities for your intellectual and physical well-being?" It is not my intention to make the beginner or the amateur photographer feel his photographic responsibilities so heavily that he loses all spontaneity of thought and action; but I do feel very strongly that photography is too much of science and an art to be treated merely as a toy to while away an idle hour. I know from experience that the beginner or the amateur who puts his very best thought and effort into all his photographic work is the one who will enjoy his camera-work the most and make the best pictures as well. In other words, photography merits the best thought and effort that a man or woman can put into it; and, for this very reason, each step should be preceded by careful and practical preparation. Let the beginner set a photographic goal worth striving for and then bend every energy to reach it—the rewards are commensurate with the sincerity of the effort.

In planning his photographic work, the ambitious beginner should take his own and the limitations of his equipment into consideration. By that I mean that the owner of a moderate-priced box-camera should not attempt work beyond the range of such a camera. On the other hand, the more fortunate possessor of double-extension camera fitted with an anastigmat lens is in a position to undertake virtually whatever he may choose to photograph. However, as I have pointed out so many times, it is the man or woman behind the equipment that is the deciding factor with regard to results. An expensive camera in the hands of a person who will not master its proper manipulation is a direct loss to photography; first, because such a camerist is no credit to himself or to photography; second, because he is depriving some ambitious worker of the use of an excellent outfit. The amateur who is determined to make something of himself photographically can get remarkable results even with a

FIRST PRIZE
BEGINNERS' COMPETITION



CONSTANCE

ALFRED S. UPTON

pinhole-camera, because his mind and heart are in his work, and every limitation of equipment is a new incentive to excel in spite of every obstacle.

There is an old saying which counsels those who aspire to fame, "not to bite off more than you can chew." In other words, the beginner or the amateur should plan his summer's work well within his own powers and within the technical capabilities of his photo-equipment. It is far better to make a success of the simple problems first and reserve the more difficult ones for later attention. The beginner, especially, should be well satisfied if during his first season he has mastered the art to make a simple, well-composed snapshot. He will have opportunities enough later to make time-exposures, speed-pictures, flashlights and autochromes. Despite all that may be said to the contrary, I do not believe that the science and art of photography can be mastered in one season. Excellent progress may be made by the intelligent beginner; but for his own good he should not think that he can master a subject that involves

scientific accuracy and the best in art. The sure road to photographic success lies in the thorough mastery of each step in the technical and artistic preparation of a picture—and this requires months, not weeks.

My own tyro-days are still fresh in my mind, and I remember well my second photographic season. The previous year I had done fairly well with my little Brownie, and in April of my second year I determined to improve my outfit and likewise myself. To this end, I purchased a folding hand-camera fitted with a good rapid rectilinear lens. "Surely," I reasoned to myself, "this new outfit will enable me to make rapid progress this coming summer. Last year I learned how to develop and print my own pictures; this year I can devote to the study of composition, light and shade and the artistic work of other photographers. In short, during my first season I mastered my camera and technical photography; now all that I need to do is devote a season to the artistic principles involved and I shall be master of the entire subject."

To make a long story short, the time I expected to

devote to the study of art-principles was given exclusively to the attempt to master the fine art of focusing! Like many another beginner, I assumed that the more I paid for a camera the less manipulation there was to it—in fact, the camera became virtually automatic after one paid a certain price. That second summer I arrived in the country imbued with art; I lived, moved and had my being in the rarefied air of a genius about to bring a waiting world to his feet; but to save my life I could not produce a picture that was correctly focused. Finally, I came back to earth. Art was all very well in its place; but it had no abiding place with me the rest of that summer. Although a world still waits to be brought to my feet by my artistry, I can focus a camera as well as any man!

The beginner will do well to specialize during his first season with a camera. By that I mean that he should select landscapes, outdoor-portraits, marines or natural history—one class of subject, whatever it may be—and confine his efforts to obtaining the best results in his chosen field. Of course, there will be times when he will like to attempt something else; but if he confines himself to the same or similar subjects for one season, he will—or should be—fairly well grounded in at least one class of work. On the other hand, if he photographs as suits his fancy, he will be “jack-of-all-trades and master of none.” The intelligent camerist soon realizes that the more that he knows of photography, the less likely become his chances to become master of all of it. However, by selecting whatever branch is most congenial, he can still make a name for himself and derive much pleasure and satisfaction from his photographic work.

Sportsmen and amateur photographers have one characteristic in common—both derive an immense amount of pleasure from anticipation. Just as the fisherman mends and renews his fishing-tackle preparatory to his trips after the wily trout, so does the amateur photographer inspect his camera and renew his stock of supplies to be ready for the early spring-days afield. Now is the time to prepare. Soon the call will come for the camera, lens, shutter, film-pack adapter and plateholder, and the camerist will do well to make sure that each item in his photo-equipment is ready to function properly. Amateurs who contemplate the purchase of a new lens, shutter or entire outfit should make haste; for they should remember that new lenses, shutters or other new equipment cannot be obtained or fitted at a moment's notice. Manufacturers and dealers are willing to do their best; but the camerist should use judgment and consideration. There is every indication that 1919 will be one of the busiest years that the photographic industry has ever experienced. For this reason, every camerist should overhaul his equipment without delay and place his order for any new goods that he may require.

In the foregoing paragraphs I have endeavored to set beginners and amateur photographers of one or two years' experience to thinking seriously about their picture-making. If I have stirred them up to a realization of the responsibility that they shoulder to make good for their own sake and that of photography, I feel sure that in time they will agree with me. Today, photography is too much of a science and an art to be treated lightly; and the sooner that beginners, amateurs and professional photographers face this fact, the sooner will every one of them get more out of it. Those of us who try to keep in touch with photographic progress throughout the world are more than ever convinced that photography is worthy of our deepest respect and our best in thought and deed.

A. H. B.

To Find the F-Numbers

AN exposure-meter of some kind should be in the possession of every amateur; it will soon save many times its cost in material. But no exposure-meter can be used unless the photographer knows the F-value of the stops in his lens; and many lenses do not have their stops marked with this important information. In such a case, there is nothing for it but to find out for ourselves what is the value of each stop.

To do this accurately enough for exposure-purposes is very easy. The F-number of a stop is merely the number of times the diameter of the opening in the stop is contained in the focus of the lens. If we know both the focus and the diameter, we can get the F-number by simple division. But knowing one or the other is not sufficient; we must know both.

To measure the diameter of the opening we must first unscrew the glasses of the lens from the mount, so as to be able to get at the stop. When removing the lenses we must be careful to note where each belongs, if there are more than one: so that we may be sure to replace them correctly.

Then, a triangular piece of thin card may be cut, three or four inches long, with one end a little wider than the largest opening in the stop, and tapering away to nothing at the other end. Putting the point of this in the opening of the stop, we push it in until it just touches the edge of the opening, in the center, with its two sides. We mark on the card where the stop touches it; and proceed to measure the other openings of the stop in the same way. By measuring the width of the strip of card at any one of these points, we are able to learn at once the diameter of the particular opening.

We can deal with the widest opening first. Taking a strip of card or paper with a straight edge, we proceed to mark off along that edge a series of points, starting at one end; each point being separated from its neighbors by a distance exactly equal to the diameter of the largest opening of the stop. Starting from one end of the strip, these can then be numbered 1, 2, 3, 4, etc. If we know the focus of the lens, all we have to do is to measure off from the “1” end of the strip, and see to which of these numbers the focus extends. If it reaches to “8,” the lens with that stop will be working at F/8: if it comes halfway between 6 and 7, it will be working at F/6.5, and so on.

We can prepare similar strips for the other stops and find their F-numbers in the same way. It will probably be found that every other stop has an opening just half or double the diameter. Thus, the largest may be three-quarters of an inch, and the next but one will be three-eighths of an inch in diameter. If this holds good all through the series, we know that each stop in succession, from large to small, will require double the exposure of its predecessor; because if the diameter of the opening is one-half, its area is one-fourth, and so only admits one-fourth as much light.

If the focal length is not known, we must find it out. If the camera is one of fixed focus we can ascertain the F-number of the stop near enough for our purpose by putting the strip marked off with the stop-diameters on the top of the camera, getting the end from which the numbers start as nearly as possible exactly over the front surface of the plates or film in the camera and having the other end of the strip out over the lens in front. Then the particular mark on the strip, which, as nearly as we can judge, is over the stop in the lens, will be the F-number.

In other words, the focus of the lens is approximately the distance from the stop to the plate or film when a



BASHFULNESS

T. P. PAYNE

SECOND PRIZE — BEGINNERS' COMPETITION

distant object is in focus. This is not true of all lenses; with certain very special forms it would be altogether wrong. But with all the lenses likely to be owned by the beginners it will be near enough.

The approximate focus can be found also by taking out the lens and using it as a burning glass, the focus being the distance from the stop to the point at which the heat is at its greatest. If the camera has double extension, we can find the focus by focusing some object near enough to the camera for its image to be the same size as the original. When this has been done we measure the distance from the surface of the ground-glass to the original, and the focus will be this distance divided by four.

The F-numbers obtained in this way with most lenses will be slightly larger than the exact ones. Thus the stop which in this way we find to be F/16 may actually be F/14 or F/15: so that the lens is really a little faster than the method gives it. The difference is not a very great one, however, and is one in the right direction. That is to say, if the F-numbers so obtained are used to find the correct exposure, we shall be giving a little more exposure than we need. As the tendency is always to give too little rather than too much, this will cause no harm in most cases.

I mention the fact that figures ascertained in the way described understate the rapidity of most lenses, because I am often the recipient of letters from photographers who have measured the openings of their stops, and found that the lens is apparently slower than it claims to be. It is not very likely that this is so; although, of course, it might be. But the method here described is not sufficiently accurate to base upon it a claim that the maker has misrepresented the rapidity.

The cause of the error is that when the stop of the lens has glasses on both sides of it, as it has in all but single lenses, the glasses condense the beam of light, so that actually a wider beam is passed than the mere measurement of the opening in the stop would indicate. To check the maker's figures, we have to find what is called the "effective aperture" of the stop, which demands a more elaborate method than that which has just been described.

Having in this way ascertained the F-value of each of the stop-openings, a careful note should be made of them; so that whenever the exposure-meter is in use, we may know what value to allow for the diaphragm or stop-opening. It is a pity that photographic lenses are ever sent out without the F-number being marked upon them.—R. C. B., in *The Amateur Photographer*.



OUR CONTRIBUTING CRITICS



YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us, postpaid, a copy of "Pictorial Landscape Photography" by Paul Lewis Anderson, price \$1.50.

MANY rather commonplace scenes make quite artistic pictures. This one does not seem to merit that distinction. The water and sky are nearly of the same tone, and as they occupy so much of the picture-space, this makes the general lighting seem flat and uninteresting. The effect is relieved somewhat by the reflections; but this again is marred by the obtrusiveness of the boat in the foreground. Placing the boat nearer the wharf—say, well within the area of the reflection—would help to lead the attention to the main objects of the picture. In this case a little could be spared easily from the foreground, a little from the left and perhaps some from the right. Pointing the camera directly toward the strongest light is rarely necessary or advisable and does not seem best in this case. A view-point more to the right, with attention to other suggestions

given here, would emphasize the main features of the scene with evident improvement of the picture.

ALBERT M. SHAW.

THIS print has all the earmarks of a "snapshot," made on the impulse of the moment, without regard to composition or light-conditions. The grouping is poor; the boat in the foreground stops the eye from entering the picture. The mooring-post at the right draws the attention that way and so on, out. The hazy group of huts with their maze of piles is very confusing. It is hard to tell where the piles enter the water. The print does not carry out its title. The pleasure-boat in the foreground is the only thing in sharp focus. The print is considerably overexposed, the highlights veiled, and is very gray in tone throughout. There is no suggestion of distance; sky and water, and foreground and background, are all dull gray.

H. J. SHIPTON.

As I look at the picture it looks like a storage-shed on the dock. It might be that the maker of the



THE PICTURE CRITICIZED THIS MONTH

picture did not choose the right point of view. The tone of the sky and water is of the same uniform tone; the horizon-line is hardly seen. And it would have been better to wait until the water showed some movement, even if it was only a little ripple, for this would give graduation in tone to the water. The picture seems to me to be "busy." The boat in the foreground and the huts, as they are called, hold strong positions in the picture-space: the eye looks first at the boat and then at the dock and back to the boat again. The piles at the end of the dock form short parallel black lines—one cannot tell just where the pile and water meet. No doubt this picture was made on a dull day when everything looked gray. It is possible that a day when the light would be brighter would give a picture with a better graduation of tones. I would recommend another exposure from a different point of view and not try to include so much in the picture-space.

H. ERNEST BLISS.

WHY is the boat so prominent in foreground? The size is disagreeably exaggerated; besides, its angle is at cross-purposes with the lines of the rest of the composition, and forms only a tantalizing obstruction of the view. If the camerist had gone more to the right, or even to the left, and nearer the dock, the whole thing would have been better apportioned and more satisfactory; the tone is monotonous, the water looks almost solid,—that and the lack of any visible life makes the subject uninteresting as a picture. Remove the boat, trim half an inch off the top and half an inch from the bottom is an alternative suggestion, the lone post at the right forming a not unpleasant balance to the heavier part of the buildings and solid, very solid reflections.

MAUDE PAGET.

THE tonal qualities of the picture are excellent; but there is no principal object in the picture, the boat and the building about equally dividing the interest,

and the post and its reflection at the right margin draws too much attention to itself. The picture would be improved if the boat and post were eliminated; but then, there would be too much uninteresting water in the foreground. Trimming off three-quarters of an inch of foreground and adding three-quarters of an inch of sky would remedy this defect. The composition would be much improved if the boat were backed out of the picture until the front margin cut through the center of the boat-cover. Then, eliminating the post, the curving gunwale of the boat would catch the eye and lead it to the right end of the wharf, whence it would travel over the building and out of the picture at the left margin.

CLARENCE A. PIERCE.

THE picture, as a whole, has an unpleasant look of flatness which might be improved, by printing upon a more suitable grade of paper. The balance appears faulty; the boat in foreground is badly placed, so much so as to be obtrusive; probably camera was too near when exposure was made, and generally spoiling the perspective. Small boat in distance, at end of pier, could be advantageously dispensed with, as well as the post—or whatever it is—at the extreme right of picture.

LINDSEY BOURKE.

IF this is intended for a record-picture of a motor-boat, there is too much diversified background. If it was intended for a picture of a fishing village, then there is too much motor-boat. The combination is a failure and cannot be satisfactorily unscrambled. I believe the maker was attracted more by the atmosphere and lighting he has rendered so well, than by anything else. There is included within the area one and one-half inches in from the right margin, and two inches down from the top, the material for a pleasing little picture of a misty water-front scene. I believe that this nominates me brigadier-general of the trimming-brigade.

RICHARD J. GRACE.



OUR ILLUSTRATIONS

WILFRED A. FRENCH



THE series of bird-photographs that appears in this issue serves to bring to the reader's attention the very best book on the photography of wild song-birds of which I have any knowledge. Reference was made to this work, by Francis Hobart Herrick, last June, but not in time to enable PHOTO-ERA readers, who are natural-history photographers, to apply that expert's simple and successful method during the mating-season. An interested reader suggested, therefore, that an important chapter of Mr. Herrick's remarkable book be reprinted, together with a number of suitable pictures, in an early spring-issue of PHOTO-ERA. This has been done, and the results will doubtless stimulate bird-lovers, who read this issue of the magazine, to unwonted activity. Although Mr. Herrick engaged in bird-photography as long as ten years ago, the time when his book was published, his pictures have never been surpassed in beauty and technical excellence. The time has passed when photography should be blamed for the frequent wretched presentation of wild birds or small animals—the main subject in an unfortunate attitude, badly lighted, horribly blurred, nearly obscured, and relieved against a spotty, messed-up background. Such inexcusable horrors look out of place in a first-class photographic publication, and no self-respecting camerist can afford to be identified with such ludicrous attempts. Fortunately, there are several easy methods to obtain photographs of song-birds—Mr. Herrick's being one of the best—that all the camerist needs is the simple equipment and a fair degree of patience, vigilance and skill.

The picture of the brown thrush, that appears on the front-cover and on page 185, suggests the following verse that met my eye a few days ago—

Nightingales sang yesterday,
Now the larks are singing,
Mystic meaning has the lay,
New-born rapture bringing,
Springtime! what a magic spell
Through the soul is going!
And hushed Nature heard it swell,
All the buds are growing.

The data for Mr. Herrick's pictures may be obtained by a careful reading of the article, "An Ideal Method of Bird-Photography," page 179, in which, under the proper headings, detailed information may be found.

Frederick B. Hodges, known to PHOTO-ERA readers through his delightfully poetic camera-walks through forest and meadow (see "The Brook," August, 1913; "The Road," July, 1914; "The Lake," June, 1918, and "The Curve in the Road," January, 1919) with charming and appropriate illustrations from nature, contributes this month his latest, "The Charm of Discovery." Mr. Hodges takes the reader into his confidence and shows him the way to a deeper appreciation of some of Nature's neglected byways and moods. He who has not the gift to perceive the many changing aspects of the great diversified outdoors, will be glad to have these secrets revealed to him. He can find no better teacher than Mr. Hodges who, with pen and camera, can present the subject with exceeding eloquence. He will kindle in the breast of the picture-lover a profound feeling of sympathy and admiration

for the things that, somehow, escape his notice. He will read and reread the inspired lines of "The Charm of Discovery" and, perchance, discover a new and permanent beauty in the author's pictured impressions. Data:

"The Birch-Trail," frontispiece—September, 4 P.M.; sunlight; 8 x 10 Century; 11½-inch Tessar lens; stop, F/32; one second; Eastman Portrait Film; pyro developer; print on Azo; clouds printed in.

"A Pasture-Road," page 170—April, about 2.30 P.M.; 4 x 5 Kodak; rapid rectilinear lens; time-exposure; old paper stripping-film; pyro developer; printed on Azo; picture made many years ago; data incomplete on that account.

"The Old Farm-Roller," page 171—November, 4 P.M.; poor light; 5 x 7 Century camera; 8¼-inch Plaginat lens; stop, wide open; 1/25 second; ortho plate; hydrochinone developer; printed on Azo paper.

"The Deserted House at Sunset," page 172—October afternoon; bright, sun just over house behind clouds; 8 x 10 Century camera; 11½-inch Tessar lens; stop, F/16; ½ second; ortho plate; pyro developer; print on Azo paper.

"Moonlight at the Old Farm," page 174—October, late in afternoon; poor light; 5 x 7 Century camera; 8¼-inch Plaginat; stop, wide open; 1/25 second; Stanley plate; hydrochinone developer; print on Azo paper.

With regard to his methods of working Mr. Hodges writes, "I put in the cameras and Mrs. Hodges puts in the luncheon and we are off in my little 'fivver'. Many times we leave the car and roam about looking for pictures. I find many beautiful subjects in this way; but very often I cannot make the pictures until a different time of the day or when there is a more subdued or brighter light, as the case may be."

Amid the turmoil and wrangling of individuals and factions, of states and nations, as to the ultimate fate of ravaged Europe, no reference is made to the Savior of the world!... Materialism reigns supreme, also materialism in its baser form—political intrigue.

In place of the customary symbol of the approaching Easter season, PHOTO-ERA offers a pictorial interpretation of a devotional subject which no doubt will be welcomed by many of our readers, page 177. The artist, W. Stelick, inclines to themes of a serious character, showing deep thought and poetic feeling in all his work. This is the first picture of a religious character that he ever sent to PHOTO-ERA. It received Honorable Mention in the "Still-Life" competition, May, 1919. His communion-service is presented in a sincerely religious spirit, and, as a pictorial composition and technical performance, leaves little to be desired. Data: Deltar Anastigmat F/4.5; used at full opening; electric light; 10 minutes; ray-filter; 5 x 7 Standard Ortho; hydro; 7 x 9 enlarged print on Azo Grade A.

The ceremony of decorating American soldiers for deeds of extraordinary heroism performed in the European war, on Boston Common by Major-General Clarence R. Edwards, former commander of the Twenty-Sixth Division and now head of the Department of the Northeast, U. S. A., has been an event of rare occurrence. The first of these occasions took place

on December 24, 1918, and was one of deep significance, and is pictured by Frank E. Colby, on page 189. The recipient of the honor at the hands of General Edwards was Lieutenant-Colonel Charles W. Whittlesey, who commanded the "Lost Battalion" in the Argonne Forest and won fame when he told the Huns to "go to hell," in answer to their demand for the surrender of his force. The ceremony was marked by the presence of a large number of distinguished officers of the army and navy, Governor McCall of Massachusetts, Mayor Andrew J. Peters of Boston, the parents and relatives of Colonel Whittlesey, a battalion of troops, and a large number of spectators.

When all was in readiness, General Ruckman, with his aid, marched out to take over the command of the battalion, then he marched down the line and took up position in the middle of the ground, escorting Colonel Whittlesey, a youthful and strikingly soldierly looking officer. General Ruckman presented his command and the band played "The Star-Spangled Banner," after which Colonel Edwin Landon, adjutant general, read the following citation for bravery, being "General Orders No. 118 of the War Department, Washington, Dec. 2, 1918":

"By direction of the President, under the provisions of the act of Congress approved July 9, 1918 (Bul. 43, W. D., 1918), the medal of honor was awarded in the name of the Congress on Nov. 22, 1918, to the following named officers and enlisted men for the acts of gallantry set forth after each person's name:

"Charles W. Whittlesey, major (now lieutenant colonel), 308th Infantry. For conspicuous gallantry and intrepidity above and beyond the call of duty in action with the enemy northeast of Binerville, in the Forest D'Argonne, France, October 2-7, 1918. Although cut off for five days from the remainder of his division, Major Whittlesey maintained his position which he had reached under orders received for an advance, and held his command, consisting originally of 463 officers and men, of the 308th Infantry and of Company K, of the 307th Infantry, together, in the face of superior numbers of the enemy during the five days. Major Whittlesey and his command were thus cut off and no rations or other supplies reached him in spite of determined efforts which were made by his division. On the fourth day Major Whittlesey received from the enemy a written proposition to surrender, which he treated with contempt, although he was at that time out of rations and had suffered a loss of about fifty per cent of killed and wounded of his command and was surrounded by the enemy."

As General Edwards stepped up to Colonel Whittlesey his aid handed him the medal. "I am directed by the War Department," said the general, as the medal was pinned on the breast of the officer, "to bestow upon you this medal for extreme bravery in battle. I was in France at the time your act thrilled the entire A. E. F., and it gives me great pleasure to present this medal."

With a smile, Colonel Whittlesey said: "I thank you, General." Colonel Whittlesey then took up station with General Edwards and the other officers and guests at the marker-flag and the troops marched past and were dismissed.

The picture shows the technical mastery that marks the staff-photographer of a first-class newspaper. The group is certainly well lighted—no credit to the photographer—but the viewpoint, liberal exposure and subsequent chemical operations made possible an artistically and technically creditable result. Data: Boston Common, Boston, U. S. A., December 24, 1918; 11.35 A.M.; very dull light; 4 x 5 Reflex camera; 7 1/16-inch B. & L. Zeiss Tessar 1c, F/4.5; full opening; 1/12

second; 4 x 5 Seed 30; pyro; contact-print in Azo F Hard X. Mr. Colby is staff-photographer of the Boston *Evening Transcript*.

Mr. William S. Davis is well known to readers of PHOTO-ERA for his many beautifully illustrated articles on photography afield and at home. In the present issue he calls attention to the pictorial possibilities of early spring, and the accompanying illustrations are further evidence of Mr. Davis' masterly skill and artistry. Data:

"Willows by the Waterside," page 191—April, 3.45 P.M.; soft sunshine; back combination of anastigmat wide open, effective aperture F/10; 1/10 second; Wellington Anti-Screen plate, backed.

"Early Spring," page 192—quiet day, 11.25 P.M.; soft sunshine; stop F/8; 1/5 second; Barnet Self-Screen Ortho plate.

"The Willow-Tree," page 193—April, 4.15 P.M.; soft sunshine from one side; back combination of a convertible anastigmat used at an effective aperture of F/20; Wellington Anti-Screen Ortho plate.

"Cherry-Blossoms," page 193—Early in May, 3.15 P.M.; sprig of bloom arranged in studio five feet from north light; stop, F/22; 120 seconds exposure; ray-filter; Roebuck Double-Coated Ortho plate.

"Young Foliage," page 194—made in May as the willows commenced to show good foliage-effects, 5 P.M.; clear light; stop, F/8; ray-filter; Roebuck Double-Coated Ortho plate.

Advanced Workers' Competition

THE results of any competition, particularly of one so uncertain as a photographic one, are difficult to foretell. There are many things that mark the successful entry—subject, conditions of weather, opportunity and mood. Thus it was that the entries in the Spirit of Christmas Competition were disappointing. It is needless to inquire the reason, although many of the entries showed that attempts had been made to picture scenes of uncommon technical difficulty. Others were motives admirable in character, but failed of artistic interpretation. This is a very common fault with inexperienced workers, and is noticeable in so many crude efforts to picture themes in still-life, genre and natural history. Numerous were the elaborate and painstaking efforts to create visions of beauty around the hearth at Christmas Eve; but the violent contrasts caused by the extreme whiteness of the night-clothes of the children and the somber surroundings, failed to appear as an harmonious ensemble in the finished print. The scenes around the Christmas tree, radiant with lights and with glittering, many-hued toys, ornaments and presents of many shapes and colors lying promiscuously about—while the little ones are happy with their playthings—form a picture of surpassing loveliness, but one that scarcely lends itself to successful portrayal by the camera. The experienced photographer, however, knows how to bring order out of chaos, and how by elimination and arrangement to prepare a suitable camera-theme. Two contributions of this kind happily marked the competition.

Many well-intentioned designs in the open miscarried because, in many instances, the models were self-conscious, or awkward, or badly placed. Others fell short on account of poor judgment shown in dealing with dark masses and objects which threw the entire composition into disorder. It seems that many workers still believe that rocks and tree-trunks look right if represented as *dead-black*, whereas such a condition does not exist in nature, not even when shown in conjunction

(Continued on page 216)



ON THE GROUND-GLASS

WILFRED A. FRENCH



Origin of the Term Camera-Bug

No term in the English language is richer in spoken, written or mentally-reserved synonyms than "camera-bug." Since we live, move and have our being as the result of the exertions of numberless little germs or bugs, it is fitting that this matter of the "camera-bug" be traced back to the original bug. Exhaustive research reveals the fact that all such nondescript terms as "snapshooter," "button-pusher," "camera-fiend," "photo-nut," and more pointed expressions of popular approval have their origin in "camera-bug," hence the importance attached to a careful investigation of the latter term. Strangely enough, it was among the early Latin writers that I found the first authentic account of the true origin of "camera-bug." To be explicit, in Julius Caesar's military report of his two weeks' vacation on the island of Britain appears a brief reference to Tullius Servius who received special commendation and the title of "camera-bug" for his remarkable exploit among the Welshmen. Though it is impossible for me to preserve Caesar's flowing narrative in its original strength and beauty, I will try to give a rough translation of that part of the report which deals with Tullius Servius and how he became a "camera-bug."

"About the year 55 B.C., Julius Caesar spent two weeks on the island of Britain. He had two very good reasons to leave the mainland; one, to explore the island; the other, to break up the monotony of his campaigns in Gaul. In command of a small unit of the invading Roman army was a centurion, Tullius Servius by name. This officer was ordered one day to scour the surrounding country for provisions, and it so happened that Mr. Servius inadvertently led his small command into a cleverly planned ambush. In view of the strained relations that existed at the time between the Romans and the Britons, a strenuous *mêlée* immediately took place, from which Mr. Servius emerged a prisoner. His captors proved to be members of a roving band who lived in that part of the island now known as Wales, and after several hours of marching, the Britons and their prisoner came in sight of an ancient Welsh castle. Mr. Servius was hustled promptly into a dark and evil-smelling vault to await the pleasure of his captors. As soon as the centurion was left alone, he searched every nook and cranny for a possible way of escape. At length, after a futile search, he flung himself into a corner and cursed the *camera* (Latin) or vault in which he was confined.

"The following day, at high noon, a point of light pierced the Stygian blackness of the vault. To the astonishment of Mr. Servius a blurred but, nevertheless, recognizable image of the landscape immediately adjoining the exterior of the castle appeared upon the opposite wall. At this psychological moment, several of the centurion's Welsh captors entered and beheld the image. Without even an attempt to investigate the matter, they cruelly accused the innocent Mr. Servius of being a *bug* (Welsh) or hobgoblin. So convinced were these hardy Welshmen that the centurion possessed supernatural powers, that they scuttled unceremoniously out of the vault without stopping to lock the door. Despite the great interest

which Mr. Servius usually showed in scientific phenomena, he decided instantly that he was not the man to solve this particular problem and followed hard upon the heels of the fleeing Welshmen. The aversion of these good men to *bugs* in general and to Mr. Servius in particular was so strong, that the centurion sped on into the open country unmolested and, at length, reached the Roman lines, whereupon he hastened to report to Caesar. At the conclusion of the interview, Caesar dubbed the valorous Tullius Servius a *camera* (Latin)+*bug* (Welsh), vault-hobgoblin or 'camera-bug,' as a mark of distinction."

This, in brief, is the first scientific explanation of the term "camera-bug" that has ever been attempted. Despite the fact that it required months of painstaking research to make this important discovery, I stand ready to give it freely to the public. However, lest the aforesaid public be inclined to jest at my expense, let me remind it that in thousands of homes the modern Knight of the Camera-Bug is no joke, but a stern and expensive reality. Witness the hundreds of pure white bathrooms left defiled by hypo stains; the newly calcimined ceilings blackened by flashpowder-explosions and the straitened financial circumstances of those nearest of kin. It is but just that those who suffer should have the satisfaction to know whence and how their trouble came upon them.

A. H. B.

The Impossible Moon in Art

Editor of the Ground-Glass: Your several paragraphs describing the careless way in which the young or waning moon is introduced into the sky, not only by photographers, but by professional painters, have been *illuminating* to me in more ways than one, and I thank you sincerely.

I was showing my little girl recently a copy of that fascinating work, "The Tale of the Ancient Mariner" with its many wonderful illustrations by Gustave Doré, and, although I have enjoyed these pictures many times during the last thirty years, in those spectacular skies of his, I have never taken notice whether there was anything wrong with the moon; but after reading your criticism of photographs and paintings where the moon was shown in impossible positions, I studied the appearance of Doré's moons in "The Tale of the Ancient Mariner" and found that it differed greatly from what I myself had seen in nature.

I am wondering why so great an artist as Doré should not have known how to represent correctly so simple a thing as the moon after sundown, or, possibly, at dawn. In either case, the bright convex side of the moon should *not be turned away* from the source of light (the sun), just as you have explained; yet Doré's moons appear in just that absurd way!

J. R. S.



First Black Lady—"Dat baby ob you's am de puffed' image ob his daddy."

Second Black Lady—"He suah am. He am a reg'lar carbon-copy."—*Globe*.



PHOTOGRAPHIC THRIFT



Whoever sends us a letter that we consider of practical photo-saving value, will receive from us a six-month subscription to PHOTO-ERA MAGAZINE.

Practical Saving-Methods

EDITOR PHOTO-ERA MAGAZINE: There was a time when I thought that every film accidentally turned by, without being exposed, was irretrievably lost. Now there seems nothing easier than to save it. Let us say that you have failed to expose Number Three; then finish exposing the roll, but do not wind entirely off the spool when the last exposure has been made. Instead, take the camera to a darkroom, carefully rewind, insert as in the beginning, and turn to Number Three and expose.

By practice, I am able to do this easily in the daytime in a dark closet and no light, but the only safe substitute for a darkroom can always be easily at hand. Pin two or three thicknesses of red crepe paper on the electric-light bulb, and you may work in safety. When I have been in the country, and no electric light was available, I placed a short candle inside a small lamp-chimney, and swathed the light with the same indispensable red crepe paper.

BERTHA SCOTT.



EDITOR PHOTO-ERA MAGAZINE:

When using paper-masks in contact-printing to obtain a white border around prints, it is a convenience—and saving of time and temper—to use a translucent mask instead of the usual opaque kind. This permits the outlines of the subject and edges of the negative to be seen while adjusting the mask in position. Such masks are made easily by soaking pieces of yellow “post-office paper”—procurable from any photo-supply house—in melted paraffin, afterward removing the surplus by placing the sheets between blotters and pressing with a warm, but not hot, iron. A number of such sheets may be kept on hand and the cut-outs made as needed; although if much work is done, it will save time to have several masks with openings of graded sizes ready to use.

WILLIAM S. DAVIS.



EDITOR PHOTO-ERA MAGAZINE:

A plate-developer, economical to use when two or three plates are developed at once, is formed by dissolving 90 grs. potassium metabisulphite, 1 oz. pyrogalllic acid, 1½ ozs. dehydrated soda sulphite in 16 ozs. cooled boiled water, bottling in ½-oz. bottles—corks boiled in paraffin. Also dissolve 1¼ ozs. dehydrated soda carbonate in 16 ozs. water and keep in a pint bottle. To use, take ½ oz. of each solution to 5 ozs. water. Each half ounce of pyro-solution should develop six 3¼ x 4¼ plates. If three such plates are to be developed, use half a bottle of pyro-solution and

fill the bottle immediately with cooled boiled water. The pyro-solution keeps for months in small bottles. This formula is an adaptation of Eastman's A, B, C formula. Keeping the developer in filled small bottles eliminates spoiled developer, and using fresh developer each time eliminates poor development due to exhausted developer.

CLARENCE A. PIERCE.



EDITOR PHOTO-ERA MAGAZINE:

Often it is necessary to develop and fix a few sheets of odd-sized paper that the ordinary trays will not accommodate. In such cases the following hint may be found useful. Find a cardboard-box as near the required size as possible and reinforce the corners and edges both inside and out with half-inch adhesive plaster. Then melt beeswax or in its absence paraffin and impregnate the sides and bottom. Removing from the hot wax and allowing time for any excess to drain off and the remainder to harden, a serviceable tray at a cost of next to nothing will be the result. The writer has found that a large tray made in this way is particularly satisfactory when used exclusively as a container for the fixing-bath and has used one in that capacity for several months without having to refinish with wax.

WILLARD L. VOGEL.



EDITOR OF PHOTO-ERA:

For efficiency and dispatch in unconventional trimming, discarded safety-razor blades are unique in themselves.

Neither the scissors nor the trimmer were ever found where they would prove the most useful; so I supplemented these two articles by safety-razor blades. By judiciously sprinkling two dozen of these old blades about the house and darkroom, there was always at least one nearby upon which I could quickly lay my hands.

One of these blades was always kept on top of the enlarging-casel. When the bromide paper was hung, I used this blade to trim along the orange image thrown upon the paper and, as a result, I always had plenty of test-paper for future enlargements. Moreover, there was little, if any, bromide paper wasted.

I use mounting-tissue almost exclusively and, in this mode of mounting, these blades help me greatly. I trim the tissue roughly with one of these blades—then mount. Any tissue that overlaps is trimmed away by the blade and there is absolutely no tissue, nor mark, to show.

Most etching-knives are too stiff; at least, I have found only one that was not—a safety-razor blade.

These blades are easily sharpened. A piece is broken off when the point becomes dull and a brand-new, needle-sharp point is the result. Of course, the cutting-point is the concourse of the longitudinal and latitudinal sides.

FRANK KING.



ANSWERS TO QUERIES



K. E. D.—Photo-engraving is a profession in itself; and, although related in a measure to photography, it should not be assumed that a mastery of one ensures proficiency in the other. Photo-engraving must be learned at a school or by several years' apprenticeship in some photo-engraving establishment. Our suggestion would be to enter some reliable school and upon graduation devote a year or more to the practical commercial requirements as found in the laboratories of a large engraving company.

O. E. T.—To make moonlight-pictures on the water is a rather difficult matter if you expect to depend on the moon. Most "moonlight-pictures" are really made by sunlight. We refer you to the article "Moonlight Photography" by William S. Davis in the November 1917 issue of *Photo-Era*. This article will be of value to any camerist who is interested in "real" moonlight-pictures.

J. B. H.—We know of no cement that can be applied successfully to the back of a wet print. We believe that you will obtain the best results by letting the squeezed print dry thoroughly on the squeegee-plate and then apply dry-mounting tissue. It is then possible to strip print and back off together; and, by moistening the dry-mounting tissue, you can mount the print anywhere you like with every assurance of success.

J. C. D.—The length of period of fixation depends on the thickness and hardness of the gelatine-emulsions which vary with different makes and kinds of dryplates. It must also be remembered that the temperature of the fixing-solution affects the length of the fixing-time. The hypo-bath should not be too cold in winter; also, while dissolving, alum develops a lower temperature, which should be taken into account in timing the fixation-period. The importance of the fixing-bath is often overlooked and of prime importance are the purity of the chemicals that compose it and the time given the bath to perform its work thoroughly.

B. D. F.—The use or omission of the hyphen in photographic titles is of importance. In your case the difference between the title "Reading Girl" and a reading room is that the girl can read, whereas the room cannot. Evidently, you refer to a reading-room, which is a place where people read—exactly as a dining-room is a place where people dine, "dining room" being an anomaly.

H. S. W.—The camera-vibration that you mention is evidently caused by a faulty focal-plane shutter. It is possible to make slower exposures than one-sixtieth of a second with a focal-plane shutter. Of course, it is rather more difficult to make slow exposures with a focal-plane shutter because the camera-mechanism is heavier than that necessary for a camera equipped with a between-the-lens shutter. With practice and with a focal-plane shutter in perfect order it should not be a difficult matter to make exposures of one-sixtieth of a second without the negative showing a trace of motion by vibration. Much of the success with a reflecting-camera depends on the camerist's ability to release the focal-plane shutter without a jerk—unintentional or otherwise. Many hand-camera workers overcome a tendency to "flinch" by inhaling deeply and holding the breath until after releasing the shutter.

C. D. R.—Ammonium persulphate reducer is more even in its action on all parts of the negative than most reducers. Moreover, it seems to have a tendency to attack the denser rather than the lighter parts of a negative that is badly overexposed. The formula for persulphate usually recommended is one part of ammonium persulphate dissolved in twenty or fifty parts of water. One drop of sulphuric acid per two ounces of solution is added to make the action more regular. When reduction is complete, the action can be stopped at once by placing the negative in a five per cent solution of sodium sulphite. A stock-solution of persulphate-reducer suggested by Mr. H. W. Bennett in *The Amateur Photographer* is the following: "Ammonium persulphate, 1 ounce; sodium sulphite, 96 grains; sulphuric acid, 48 minims; water, 10 ounces. For use, dilute 1 part with 9 parts of water. A final wash is necessary, and if much reduction has taken place it is well to fix a second time."

K. S. U.—A concentrated stock-solution of hypo may be kept conveniently in the form of eight ounces of hypo to the pint. This can be then diluted with its own bulk of water to fix negatives or three times its bulk to fix prints. There is no need to use greater strength for negatives than for prints, although the proportions given are those usually given.

W. J. B.—To introduce a figure into a group. The best way to do this is to make an enlargement of the group and enlarge the negative of the single figure proportionately. Then cut the single figure out and paste it on the group in the position desired. Next, work up whole print if necessary and make a negative the size required. Due care should be taken to avoid including the shadow of the cut edge of the single figure. This method is preferable to double printing direct from the two negatives.

D. W. H.—To remove the emulsion from old negatives dip the plates in nearly a boiling solution of caustic soda. This removes the emulsion very quickly; but we know of no method as rapid that will also enable you to recover the silver or the gelatine. We are of the opinion that any silver thus recovered would be of little commercial value. Moreover, the gelatine is not considered to be worth saving.

B. W. K.—To remove varnish from a negative place the plate in a glass or earthenware-tray—not one made of celluloid or composition—and cover the negative with methylated spirit or, if unobtainable, wood alcohol to a depth of about one-half inch. A sheet of glass—an old negative will do—should be placed over the tray to prevent too rapid evaporation. It is advisable to rock the tray every few moments. In about one-half hour rub the varnished side of the negative gently with a tuft of cotton. Usually, most of the varnish is dissolved; but sometimes it may take longer if the varnish is hard or old. Slight heat often helps the reaction. A second and fresh bath will virtually always remove all trace of varnish. After the second immersion in methylated spirit or wood alcohol the plate should be washed in gently flowing water until the greasy appearance disappears. The negative may then be reduced by the usual methods and finally re-varnished if desired.



EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions and Conventions are solicited for publication



Photographs for the History of the War

WAR DEPARTMENT, OFFICE OF THE CHIEF OF STAFF
WASHINGTON

MARCH 8, 1919.

WILFRED A. FRENCH, Esq.,
367 Boylston Street,
Boston, Mass.

My dear Mr. French: The March issue of PHOTO-ERA is before me. Permit me to thank you for your article entitled "Photo-Era's War-Prints Competition," as well as for your patriotic co-operation not only in instituting this competition, with the assistance of Mr. Herbert B. Turner, but for your many and valued responses to my various demands upon you.

The photographers of this country have rendered a noteworthy public service in assisting this office in the compilation of the official pictorial history and record of the war. You may be interested to know that at the present time, this office has collected approximately 450,000 photographs; many of these are of great value. It may be presumed that, in the course of time, these files will be drawn upon when the official pictorial history of the war may be published.

The gathering together of this material has been a big task, and its accomplishment would have been difficult, if not impossible, without the patriotic co-operation of American photographers generally.

With sincere personal regards, I am,

Sincerely,

KENDALL BANNING,
*Major, General Staff,
O. I. C., Pictorial Section,
Historical Branch, W. P. D.*

Fifty Years in Photography

MR. GEORGE H. HASTINGS, past-president of the Photographic Association of America, and also of the Photographers' Association of New England, has the enviable distinction of being a professional photographer of fifty years' experience. As president of the above-mentioned associations, he served with marked success, and was a credit to the associations and to himself. The many friends and admirers of Mr. Hastings are congratulating him on his long professional career and his well-deserved success. At present, Mr. Hastings is associated with Mr. Orrin Champlain under the firm-name of Champlain and Hastings, successors to The Chickering Studios, 21 West Street, Boston, Massachusetts.

The Utah Camera Club

IN line with its policy of seeing the work of the leading pictorial photographers of the country, the Utah Camera Club is showing an exhibit of carbon-prints by W. H. Porterfield, of Buffalo, N. Y., one of the foremost pictorial photographers of the country.

Although only in the third year of its activities, the Utah Camera Club is a live organization and is initiating a lot of interest in pictorial work among its members. It will hold its Third Annual Exhibit in April.

Boston Y. M. C. U. Camera Club

THE annual members' exhibition of the Boston Young Men's Christian Union Camera Club was held at 48 Boylston Street, March 5 to 29. There were 84 prints by 9 exhibitors. The pictures seemed to be of the usual high standard attained by the club, although the work of several interesting members, including Herbert B. Turner and Chester Grillo, was not represented. War duties was the excuse, and that is sufficient. Even so, the prints on exhibition were made under conditions that cannot be called favorable, for art is at a low-water mark in these days, and initiative, interest and encouragement do not prevail as they should.

The exhibition, this year, differed from its predecessor in several respects, aside from the absence of several excellent workers. Mr. G. H. Seelig had the largest individual exhibit, which consisted of landscapes and genre-subjects, the former predominating. He also captured the majority of the prizes, whereas Arthur Hammond, a professional, enjoyed this pleasant experience last year. Mr. Seelig showed consistent improvement in his work, a circumstance due to his innate poetic feeling, true artistic expression and an evident desire to progress. His landscapes incline towards simplicity of design and breadth of style, but occasionally approach excessive subordination of receding planes—a tendency which, unless checked, may spell disaster. W. J. Jaycock, a new-comer, arrested attention by a series of striking pictures of seagulls in flight, a branch of pictorial work confined hitherto to workers on the Pacific Coast.

The prizes (blue and red ribbons) were awarded as follows: Landscapes, first, G. H. Seelig, "Dreary December," a decorative winter-scene; second, G. H. Seelig, "Fenway in Winter"; Honorable Mention, A. H. Blackington, "Can Willie come out?"—two small boys standing out in the snow and calling for their playmate in a house opposite.

Marines, first, W. J. Jaycock, "A Break in the Clouds"; second, W. J. Jaycock, "Stormy Day at Great Head, Maine."

Miscellaneous, first, G. H. Seelig, "Indoor Sports," a Japanese doll lying prostrate before an idol; second, W. J. Jaycock, "Out of the Clouds," a seagull in flight.

Portraits, first, Arthur Hammond, "Portrait of a Boy"; second, Louis Astrella, "Sibylla," portrait of Mrs. Astrella.

Genre, first, G. H. Seelig, "Is it Deep?"; second, G. H. Seelig, "The Steam-Drill."

The names of the judges are Henry Eichheim, C. King and Dr. H. B. Shuman.

Canadian National Exhibition at Toronto.

THIS exhibition, to be held August 25 to September 6, 1919,—international in character,—will be under the direction of the Toronto Camera Club and will be known as its Twenty-Eighth Annual Exhibition. A cordial invitation is extended to pictorial photographers throughout the world to submit prints. The Canadian National Exhibition has the largest daily attendance of any annual exhibition in the British Empire and for this reason the pictorial photographer

will have an exceptional opportunity to display his art. The largest room in the Graphic Arts Building has been placed at the disposal of the club, and in it four or five hundred pictures may be hung to advantage. The Toronto Camera Club is affiliated with the Royal Photographic Society of Great Britain and it has held many creditable exhibitions, with entries from all over the world. All entries close positively July 19, 1919. For entry-forms and other information address A. S. Goss, Secretary Exhibition Committee, Toronto Camera Club, 2 Gould Street, Toronto, Canada.

For Secretaries of Camera Clubs

WHEN members of camera clubs or other photographic institutions fail to find, in PHOTO-ERA, references to the activities of the organizations in which they are interested, it is not always the fault of the magazine. Sometimes the secretary forgets to notify the publisher, or, when he remembers to do so, it is *after* the event, and too late!

A really efficient secretary, or the publicity-man, should remember that the June issue, for instance, of a monthly periodical is not published in June, but during the *preceding* month. In fact, a monthly magazine goes to press *several weeks before the date of issue*, and all the material intended for that particular number must be in the publisher's hands *earlier than that*.

If there is a catalog, or list of exhibitors, of a photographic exhibition, the publishers of photographic periodicals should be among the first to receive copies.

Therefore, those who are interested to have the activities of their organizations published in the photographic press, should see to it that the person in charge of the publicity-department is "on the job."

Newark Camera Club, Inc.

WE have received two interesting circular letters from Mr. Louis F. Bucher, secretary of the Newark Camera Club, Inc., 878-880 Broad Street, Newark, New Jersey. One of them announces a competition on lantern-slides between the camera clubs of America. The Newark Camera Club offers a sterling silver and a bronze medallion to the two clubs which submit the best sets of lantern-slides. Camera club secretaries should write to Mr. Bucher for further particulars and for the rules governing this interesting competition. The second letter—copies of which may be obtained from the secretary—asks the camera clubs of the United States to express an opinion with regard to the advisability of establishing an association to be known as "The Associated Camera Clubs of America." The Newark Camera Club believes that such an amalgamation would be of great benefit to amateur and professional photographers who are members of camera clubs or photographic organizations. Without a doubt such a discussion should be of interest and benefit to every camera club in America. The Newark Camera Club is to be congratulated on its attempt to further the interests of photographers in the United States. If this idea appeals to any camera club it should instruct its secretary to write to Mr. Bucher without delay. Any additional suggestions will be received cheerfully and gratefully.

Our Illustrations

(Continued from page 211)

with snow. As a matter of fact, sufficient light is reflected from the snow to give character to the darkest objects in proximity, and complete blackness is an impossibility. If any one doubts this statement, let him investigate and be convinced.

In his admirable genre, page 199, Dr. Charles B. Piper has told an engrossing Christmas-story. True, the speculative mind may ask just what the man is doing. Indeed, there is a little room for the jocosely inclined, and everybody is merry at Christmas-time. In a lighter print the heavy blacks would be much relieved and the man's complexion be in a higher key, without imperiling the vigor of tone in the present original. Data: December, at 4 p.m.; heavy snow; Ica Cupido, 12-cm. Zeiss Tessar; at F/4.5; 1/25 second; developed by time and temperature method in Duratol-Hydro; enlarged on Contrast Cyko.

The scene around the Christmas-tree, page 201, seems to have had no terrors for Mr. Stelick. The arrangement of the different trying parts is excellent. Harmony and unity prevail and there is a good scale of gradations. The children seem really absorbed in their occupation—unconscious of the presence of the photographer. Data: Daylight; one window; 5 x 7 Conley camera; F/4.5 Deltar lens; stop, wide open; one second; Standard Orthonon plate; hydrochinone developer in tray; print on Kruxo soft, Buff.

Beginners' Competition

THE pose and expression of the little Miss are, indeed, praiseworthy. The lighting is likewise creditable, and this permits the eyes to appear most advantageously. It is delightful to note how well this beginner has managed the hands—a problem that embarrasses even a professional! All credit, therefore, to this successful worker in the field of home-portraiture! Data: January 11, A.M.; good light; 4 x 5 Korona; 7-inch Voltas; stop, F/8; 3 seconds; 4 x 5 Seed 27; M. Q.; contact print on Artura Iris C.

In his picture, "Bashfulness," page 207, T. P. Payne has displayed a degree of technical ability of which many an advanced worker would be proud. The plastic effect is remarkably fine, and flesh-tints are above reproach. The figure would look better if placed a little to the right of the center. The foreshortening of the head is unfortunate. This could have been obviated had the chin been raised a little, although, of course, not much can be done with children while under the influence of emotion, especially when being photographed. Data: October 20, 1918; bright light; Auto-Graflex, Jr.; 2 1/4 x 3 1/4 camera; 4 1/2-inch lens; stop, F/8; 1/160 second; Standard plate; developer M. Q.; enlarged on Cyko Buff.

"BLUSTERING MARCH," by JOHN PAUL EDWARDS. The data of this picture, which appeared on the front cover of March PHOTO-ERA, arrived too late for insertion in that issue. As the data may be of interest to many, they are given herewith. March, 5 p.m.; dull light; 4 x 5 Sanderson camera; 8-inch Struss lens; stop, F/5.5; three-time color-screen; 1/15 second; Standard Orthonon plate; Adural developer; print on Illingsworth Bromide.

Our Contributing Critics

THE picture offered this month to our contributing critics for consideration is "The Critic," by W. E. Fowler. The author is conscious of the defects in his print and has enumerated them in a letter to the Editor. The subject is inspecting her father's films after development—a common scene in the gentleman's home—and, of course, she then proceeds to make comments on the results, hence the title of the print. Data: Sun on the window, 11 A.M.; 2 1/4 x 3 1/4 Auto-Graflex, Jr.; 5-inch Verito lens; stop, 4/8; 4 seconds; Premo film-pack; pyro in tank, 65 degrees for twenty minutes; enlarged on Royal Bromide Rough.



LONDON LETTER

CARINE AND WILL CADBY



STILL they come! these big exhibitions of war-photographs. We really hesitated whether we should mention the Exhibition of Canadian Battle-Photographs now open at the Grafton Gallery, being afraid to weary our readers with what sounds a little like repetition of the same thing. But in spite of our fear to become tiresome, we are sure that no one interested in the trend of modern photography can afford to ignore these shows. They are some of the most valuable and suggestive emanations of our craft. They have an extraordinary big attendance,—there is usually a long line waiting for admission,—they are treated seriously by the press and are a decided factor in influencing public opinion. Another point of interest to the photographer is that they go to prove that, despite every obstacle, photography has forged ahead during these war-years, and that even the standard of snapshots is a much higher one. The public does not in the least realize why these photographs are so much more pleasing and convincing than the old-time greatly enlarged snapshots. People do not take into consideration that the lighting, composition and general artistic effect have been studied by an expert and that, although they are snapshots—or what are popularly imagined to be snapshots—their selection has been made by one who understands pictorial values.

There is one picture, most decidedly not a snapshot: "The Cemetery of the Canadians at Etapes," and there is an interesting frieze in the Central Room, 200 feet in length, representing in panorama-form the hundreds of guns captured by the Canadians in their final advance. There are two views of Arras about which there is an interesting note. They were snapped from parachutes coming down from observation balloons. Unluckily, one of the parachutists made a bad landing and broke a leg. There is also an enormous enlargement of the momentous telegram, dated November 11, 1918: "Shortly before dawn this morning Canadian troops of the First Army (General Horne) captured Mons."

The majority of the photographs are colored, and the public again imagines that it is looking at real color-photography and goes away saying how wonderful and lifelike it is!

On January 20 we responded to an invitation issued by Miss Agnes B. Warburg, and went to see her "one-man" show at the Italcyan Club. In spite of its being one of the worst of what has been a series of drenching and unpleasant days, the gallery was filled with visitors. We were at first a little disappointed, having for some reason expected a color-show. It is however an extreme example of how work by one person gains by being seen all by itself. The lack of something in one picture seems somehow to be made up by the gain in the next, and so on. We do not suppose that the audience would allow that there was anything lacking in any of the prints, being of the appreciative and not of the critical turn of mind. It always strikes us that Miss Warburg is struggling to express something for which she finds the art of the camera too limited. In all her work there are suggestions and ideas that, somehow, do not assert themselves, for which reason it is a good deal more interesting than the direct and explicit photography of a great many women. The lightest

and, most decidedly, the most popular panel of her exhibition was that of the child-studies. Some we had seen before, but she had added to this collection. The little verse under each suggests that they shall not be taken too seriously and are also very much to the point. Perhaps there is one exception when these rather bloodthirsty words:

"Bold Indians we
"As ever went,
"Fly if you see
"Us leave our tent."

are written under a portrait-group of two placid, tidy children sitting outside an improvised wigwam.

Most of the exhibition-prints are on bromide paper, which printing-medium, Miss Warburg told us, she is now using quite a lot. It is amusing how the once-despised bromide is coming into its own. Will it hold on when normal conditions return and other processes are to be had as easily?

Now that the war is virtually over, the mere civilian is getting news of the late activities at the various fronts that had hitherto been withheld. The Royal Air-Force, in an official publication, has been letting us in to the photographic secrets of its flying-men, and giving us some idea of the immense amount of work that has been done. On the western front alone, during the last ten months of war, 264,605 negatives were made in the air over German territory, and 5,800,000 prints were made for the Intelligence Staff. It was no unusual thing for 11,000 negatives to be made in a week before an important advance. We also learn that the most recent types of R.E.C. cameras have a steel-chamber containing an automatic device for changing the plates after each exposure. The mechanism was worked by a very small propeller at the side of the machine. The pressure of a lever by the observer brought into action the mechanism which exposed one plate and brought a new plate into position. This device has enabled many valuable photographs to be made under heavy fire from the air and ground. The Royal Air-Force specialized in thin negatives, which enabled prints to be made in about three seconds.

But to return for a moment to the prints and negatives made, which leads us to the subject of future air-maps and is absorbingly interesting. The outsider stands aghast at the enormous numbers, and is puzzled at the use to which they are put; but when we grasp the fact that the airman has gradually been brought by experience to rely on photographic air-maps as opposed to *land-maps*, we begin to understand the problem, and grasp the big part that photography is going to play in the guidance of airplanes over land. Compass, air-logs, and *photographs* will be the navigating-necessities of the future. In ordnance-survey, maps—unimportant things, from the flyer's point of view—that often cannot even be seen from the air, are given prominence; whereas objects that are clearly noticeable from aloft are often omitted altogether. Now, the photographic map represents virtually *what we see*, and it is for this reason that all countries will have to be systematically air-photographed so as to obtain reliable charts for pilots, which, placed on horizontal rollers in

(Continued on the next page)



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

PHOTOGRAMS OF THE YEAR 1918-19. The Annual Review of the World's Pictorial Photographic Work. Edited by F. J. Mortimer, F. R. P. S. 32 pages text. 86 halftone reproductions. Price, paper-covers, \$2.00; cloth, \$2.50. Postage according to zone. London: Iliffe & Sons, Ltd. New York: Tennant & Ward, 103 Park Ave., American agents.

The current number of this pictorial annual comes to hand in its usual makeup as to text and illustrations. Naturally, there is a slight reduction in the quality of the halftones which is due, no doubt, to unfavorable conditions caused by the war. Most of us, several thousand miles away, have not the least conception of the prevailing industrial conditions in England. The people over there are facing hardships unknown to us; and, though actual hostilities between the Allied nations and Germany have been suspended—armistice is not peace—a justifiable feeling of apprehension still exists in France and England. It is therefore highly creditable to the coolness, pluck and determination of our English cousins that business and industrial activities are maintained as well as they are. Despite the relatively blissful and comfortable state in which we, over here, live at present, we cannot but see the effects of the war in one way or another. The pictures in the present issue of *Photograms* are unusually interesting and instructive, nevertheless. The editor, Mr. F. J. Mortimer, describes in graphic terms the well-nigh discouraging conditions he had to face in order to procure suitable and attractive pictorial material for his annual. His remarks will be found illuminating.

The British pictorialists uphold their well-known artistic standards and show a marked tendency towards diversity of motives. Thus, Mr. Mortimer's only contribution is a genre—"The Gate of Good-bye"—a group of English Tommies and the sweethearts at the entrance of a railway-station. It is a masterpiece. Charles Job is identified with a marine, "In Dock"—forceful and filling; Hugh Cecil with an engrossing genre, "Curds and Whey," and H. Y. Simmons, with a striking decorative scheme, "Tempest." Of newcomers there are not a few, which is true particularly of the Americans who are twenty-two strong. In novelty and mastery of subject are Alice Boughton—"Pierrette"; Clarence H. White—"Inga Sontum"; W. A. Hudson—"A Basket of Roses"; C. W. Christiansen—"The Sleeping Lion"; E. M. Pratt—"The Capitol," published in January, 1919, *PHOTO-ERA*, having received first prize in our "Architectural" Competition; W. G. Fitz—"City Hall, Philadelphia"; E. H. Weston—"Vandeville"; the late W. H. Raben—"Nocturne"; John Paul Edwards—"A Beach Frolic"; Dr. R. S. Lovejoy—"A Summer-Symphony"; Anson Herriek—"The Bank"; Ralph W. Brown—"Little Black Dog"; H. C. Torrance—"Carnegie Technical School, Pittsburgh"; Arthur F. Kales—"A Magazine-Cover," and Louis Fleckenstein—"Betty," which is a highly creditable showing of the United States.

The text has been made eminently interesting by "The Year's Work," the editor; "Observations on Some Pictures of the Year," W. R. Bland; "The Royal Photographic Society and Pictorial Photography," R. Child Bayley; "Some Aspects of Landscape and Portraiture," Anthony Guest; "The Importance of the Beginner," Ward Muir, and articles by authoritative writers on pictorial photography in the air, in Canada, the United States, Scandinavia, Holland and Spain.

At this writing, the supply of the books of local dealers and the American agents was exhausted, despite the necessitated advance in price.

PHOTOGRAPHY AND FINE ART. By Henry Turner Bailey. 96 halftone reproductions of original photographs and oil-paintings. Quarto. Large octavo. 124 pages. \$1.50. Worcester, Mass.: The Davis Press.

The author of this interesting work is a professional art-critic and eminently qualified to instruct the student or the photographer ambitious to produce artistic pictures. He states that the aim of his book is esthetic, and that it contains nothing about the mechanical or chemical technique of photography. He has tried to state clearly and to illustrate adequately those principles of composition and elements of beauty which, in his own experience and in the close observation of the work of others, he has found to be illuminating and dynamic. He says that photography has led thousands upon thousands of people into the magic world of pictorial art, where the masters of painting freely offer radiant companionship and perennial joy to the open-minded lover of beauty. It is the author's hope that his book may prove helpful in shortening the journey of the hasty and hopeful photographer from the Land of Longing to the Land of Heart's Desire.

In twelve chapters, Mr. Bailey takes the student from the crude beginnings in technical and pictorial understanding, through various phases of artistic development, to a clear comprehension of esthetic beauty. By examples of faulty construction and inadequately treated motives, he demonstrates what the student-cameras should avoid and how he can improve his opportunities. The criticism is constructive, helpful and encouraging. The subjects under consideration comprise record-photographs, landscapes, flowers, architecture, genre, portraiture and illustrations, with the author's decided preference for straight, sane methods. Mr. Bailey dwells constantly on the importance of composition, which he regards as three-fourths of pictorial art and the largest concern of the photographer. He deprecates the latter's practice of imitating with living models well-known masterpieces in painting, and places reproductions of the originals and imitations side by side in quite a convincing way. In the selection of photographs that fulfil his ideals as works of art, Mr. Bailey has shown excellent judgment, so that the student in pictorial expression will have a high artistic standard to guide him.

(Continued from the preceding page)

the airplanes, will be rolled up as the journey progresses and one particular bit of the map is done with.

If it is not already, air-map-photography will become a very expert and skilled business, and it will be interesting to watch what are the particular lightings that are most suitable. All photographers know how tremendously a different light will alter a subject, and it would seem that this factor will be even more important in air-photographs than elsewhere; for under certain conditions (for instance, with the sun quite vertical) the landscape must assume a very different appearance than when seen under the rays of the sun.



RECENT PHOTO-PATENTS

Reported by NORMAN T. WHITAKER



THE following patents are reported exclusively for PHOTO-ERA MAGAZINE from the patent-law offices of Norman T. Whitaker, Whitaker building, Washington, D. C., from whom copies of any one of the patents may be obtained by sending fifteen cents in stamps. The patents mentioned below were issued from the United States Patent Office during the month of January, the last issues which have been disclosed to the public.

Samuel E. Sheppard of Rochester, N. Y., has been granted patent, number 1,290,794, on Colored Photographic Element and Process of Making the Same. Rights have been assigned to Eastman Kodak Company.

A patent on a Photometer, number 1,290,695, has been granted to Howard G. Aylsworth, San Francisco, Cal., assignor of one-third to George A. Doland and one-third to William Wolf, San Francisco, Cal.

William A. Dwyer of Chicago, Illinois, inventor of a Blue-Print Washing Machine, patent, number 1,290,134, has assigned his patent-rights to William H. Miner, Chazy, N. Y.

Patent, number 1,291,004, Photographic Camera-Back, was granted Charles E. Hutchings, Rochester, N. Y.; assignor to Eastman Kodak Company.

Ernest Howard Farmer of London, England, has received patent, number 1,291,452, titled Photographic Camera.

Patent, number 1,291,403, on a camera, has been issued to Lawrence K. Champeau of Orange, N. J.

Method and Apparatus for Developing Film-Cartridges, patent, number 1,291,453, issued to Ernest Howard Farmer of London, England.

Archibald McIntyre Maxwell of Ithaca, N. Y., received patent, number 1,291,994, on a Photographic Camera.

The International Patent-Licensing Corporation of Chicago, Ill., a Corporation of Delaware, has by means of assignments secured patent, number 1,292,036, entitled Camera, invented by William A. Peters of Chicago, Ill.

George I. Kester, Rochester, N. Y., has invented improvements on a Photographic Camera patent, number 1,291,920, assignor to Eastman Kodak Company.

Apparatus for positioning the printing-plates on the plateholders of Photographic Printing-Apparatus has been invented and patented as, number 1,291,897, by William C. Huebner of Buffalo, N. Y., assignor to Huebner-Bleistien Patents Company, Buffalo, N. Y.

A machine for treating Photographic Prints with fluids has been invented by Cesare Barieri and Paul Carpenter of Chicago, Ill., patented as, number 1,292,230.

Alcohol and Glycerine

As it has been acknowledged that the merits of any individual become enhanced as the period during which he has been defunct increases, so the real value of a commodity is never fully appreciated until it becomes unobtainable. Two extremely useful chemicals that have undergone this experience during the war are glycerine and alcohol. The number of photographic formulae that it became necessary to modify or aban-

don, owing to the "unobtainability" of one or the other, is surprising. We are glad to be able to announce, therefore, that the Ministry of Munitions states that supplies of alcohol are now available for industrial purposes; so that manufacturers should be able to have their requirements met from the usual sources without restriction, subject, as formerly, only to the ordinary Regulations of the Board of Customs and Excise. Methylated spirit is again salable to the public for domestic and general purposes. Our cotemporary, *The Pharmaceutical Journal*, in a note on the subject, states that arrangements have been made to enable producers of glycerine to supply substantial quantities for common use.—*The Amateur Photographer*.

Print-Washing

As a rule it is some little time before the presence of hypo in an imperfectly washed print becomes manifest, but sooner or later it makes trouble for the careless producer. With ordinary black bromide or printing-out paper it may be months, even years, before a general yellowing of the image or uneven patches begin to appear, but with sepia-toned bromides retribution is swift, for deterioration sets in before the work is finished, and sometimes the cause is not suspected, the paper, the bleaching solution, and even the sulphide bath being blamed, although the fault is due to improper washing. The great fact to be remembered is that Farmer's reducer is composed of ferricyanide and hypo, and that no matter in what form or for what purpose a solution containing these two chemicals is applied to a print the effect will be the same. We all know that when a print has been locally reduced the tone of the reduced part will be different from that of the remainder; sometimes only slightly and at others very noticeably. Now a very small trace of hypo in a print is sufficient to react with the ferricyanide in the bleacher, and to start reduction of the image sometimes evenly and sometimes in patches or streaks. We have seen a batch of excellent prints which should have given excellent tones turn out a wretched ginger-color from this cause alone, and not only have the badly washed prints been affected, but properly washed ones have also been spoiled by the hypo conveyed into the bleacher by the former. Unless carefully watched, many printers will trust to throwing prints into a large dish or sink and allowing a tap to run upon them, and if that tap runs for an hour they will say that the prints have been washed for that length of time. Unless one has a perfect mechanical washer there is no safe method of freeing prints of hypo except by hand-washing; that is, transferring the prints singly from one tray of water to another. Even as few as six changes of five minutes each in this way, provided that an ample quantity of water is used, will render prints safe for toning, and secure black ones from fading. There are two well-known tests for the presence of hypo, permanganate of potash and iodide of starch, and it would be well for anyone who is getting bad colors from apparently good black prints, to apply one or the other. We know of one great firm which tests every batch of prints, bromide or gaslight, with permanganate, and the results are conspicuous for their good tone.—*The British Journal*.



WITH THE TRADE



Taxes on Photographic Supplies

THE ostensible reason for levying a tax of ten per cent on cameras and five per cent tax on plates and roll-films, by Congress, is to obtain revenue. The fact that the photographers, both professional and amateur, have rendered inestimable service to the Government—notably in giving up valuable equipment and lenses, without any pecuniary or other equivalent—seems to have been ignored by certain members of the House and the Senate. It appeared that there was in plain sight an inexhaustible source of revenue, and the idea was to utilize it. Patriotic sentiment was not considered, although photographers throughout the land were entreated to give up their valuable lenses, field glasses and binoculars purely for patriotic reasons.

Moreover, the five per cent tax on plates and roll-films was imposed despite the fact that photographers—amateurs in particular—were invited to furnish the government, free and without remuneration, photographs of war-activities. Many demurred or were not interested; but, on the other hand, many from purely patriotic motives, gave up time, effort and material and contributed prints to enrich the War-Prints Division, Historical Branch, at Washington. Of course, these gallant photographers have been publicly thanked by the Government for their unsparing efforts, and they are correspondingly happy.

But, then, there was an additional tax of ten per cent on photographs, because photographs were considered a luxury! So, everybody got busy and induced his representatives and senators to have this "luxury" tax removed from the revenue-bill. The Publisher sent telegrams and letters to Congressmen, Senators and Committees, at Washington, and believes that he has contributed at least something to bring about the removal of the iniquitous ten per cent tax from the revenue-bill.

It was a narrow escape. Now, that the seemingly impossible has been accomplished, it is just as well that the entire photographic profession be considered as entitled to the credit, although we will find, here and there, individuals who take to themselves a very considerable share of the credit due.

Selling Photographic Magazines

WE have before us a letter from a dealer-friend who asks us to discontinue sending him PHOTO-ERA because it does not sell readily in his store. He hastens to explain that, personally, he believes PHOTO-ERA to be one of the best photographic magazines published; *but his customers do not ask for it*, and on that account he prefers to use his counter-space to better advantage. If this dealer pursued the same policy with regard to all the goods in his store, we do not believe that he would be as successful as he is.

The point of vital importance, which many dealers overlook, is that to push photographic magazines stimulates the customer's desire for the very goods which the dealer carries. The intelligent salesman should know each subject which his customer considers interesting, and it should be his duty and pleasure to call the customer's attention to such current articles in

the photographic magazines as will help the amateur directly in his work. We have abundant proof that when photographic magazines are pushed zealously, *they do sell extremely well*, to the mutual profit of dealer, amateur and publisher.

A New 4 x 5 Pictorial View-Camera

FOR several years there has been a growing demand among pictorial photographers for a well-made view-camera smaller than 5 x 7. In October 1914 Pinkham & Smith Company, 13½ Bromfield Street, Boston, anticipated this demand by inducing a well-known camera-maker to begin the manufacture of a 4 x 5 view-camera. Unfortunately, the European war interrupted any further progress in this direction. However, the manufacture of these cameras is again in full progress and several are now on display at Pinkham & Smith Company's Bromfield Street store. All the practical features of the larger view-camera are embodied in these smaller view-cameras. Special attention is called to the four-inch square frontboard and nineteen-inch bellows-extension designed to accommodate the many soft-focus and other large lenses made for pictorial work. The intention is to equip these cameras especially for the ambitious pictorial photographer who wishes the best possible complete outfit at a moderate price. Further particulars are to be announced in May PHOTO-ERA.

Wollensak Verito Lens for the Graflex

FOR some time there has been a marked demand for a pictorial lens among users of Graflex and other reflecting cameras. Although the Verito Diffused-Focus lens could be fitted to reflecting-cameras, it was inconvenient to use because the lens had to be unscrewed from the frontboard before the camera could be closed. Owing to recent modifications in its construction, made by the Wollensak Optical Company, the Verito may be now fitted easily to Graflex or other reflecting-cameras and permit them to be closed properly. The flange is nearer the diaphragm, thus making it possible to close the camera with the lens in place. We believe that users of Graflex and other reflecting-cameras will be eager to obtain a Verito for their pictorial work this coming season. Dealers will do well to get in touch with the Wollensak Promotion of Trade Department, Rochester, New York.

Now is the Time to Advertise!

THOSE dealers and manufacturers who have been consistent advertisers during the war, are now enjoying the results of their publicity-campaign. Now, there is no need of a new introduction! However, those dealers and manufacturers who—through no fault of their own—were compelled to discontinue advertising, should take the first opportunity possible to re-establish their names and products in the minds of amateur and professional photographers. "Out of sight out of mind," is an old adage that is particularly applicable to a firm or a product.

MAY

1919

20 CENTS

PHOTO-ERA

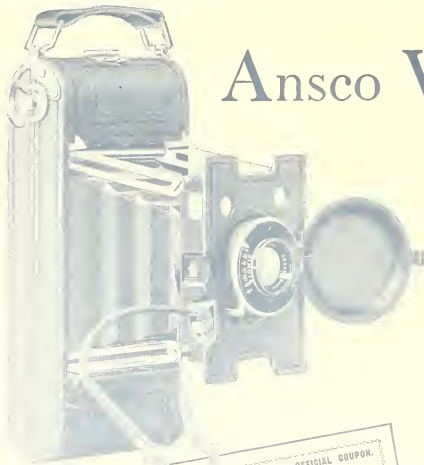
The American Journal of Photography



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The Gift of Gifts at All Seasons



Ansco V-P No. 2

TO the soldiers of the American Expeditionary Forces no gift can take the place of a camera—and now that hostilities have ceased and the censorship lifted, Ansco Cameras will be called for more than ever.

That the Ansco V-P No. 2 is the choice of the boys "over there" is well shown by the following letter from one of them:

APPROVED BY WAR TREATY
Approved by F. O. Dept.

AMERICAN EXPEDITIONARY FORCES
CHRISTMAS PACKAGE COUPON

FOR: Athey, E. C. (Name) Sgt. Maj. (Rank) 153024 (Army Serial Number)

Att. Casual Co. # 1, General Headquarters, APO 706. (Company) (Regiment) (Arm of Service)

PASTE THIS COUPON ON THE PACKAGE

DIRECTIONS: One Christmas package not heavier than 3 pounds and not larger than 4 by 4 by 3 inches will be carried free from Hoboken, N. J., to each American soldier in Europe. Standard boxes of these dimensions will be furnished, upon application, by local chapters of the American Red Cross in the United States. Christmas packages must not contain perishable articles, or any articles prohibited by the postal laws for transmission by mail. PACKAGES NOT CONFORMING TO STANDARD FURNISHED BY RED CROSS WILL NOT BE ACCEPTED. This coupon is authority for any postoffice to accept on or before November 24, 1918, a Christmas package conforming to the above regulations for the soldier named herein. Postage to Hoboken, N. J., must be prepaid.

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A. C. PHOTOGRAPHIC CO., G. R. Q. & E. F., 1918.

ANSKO COMPANY,
Binghamton, N. Y.

Somewhere in France

October 4, 1918.

Gentlemen:—The enclosed cut of an Ansco Camera, together with Money Order for \$27.50 and Christmas package coupon, tells what's wanted—Ansco V-P No. 2, with F 6.3 lens. Stick the coupon on tight. No writing necessary.

Sincerely,

EDGAR C. ATHEY.

ANSKO COMPANY, Binghamton, N. Y.



ON LAKE COMO
H. A. LATIMER
PITTSBURGH SALON



PHOTO-ERA

The American Journal of Photography

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MAY, 1919

No. 5

The Sixth Pittsburgh Salon

O. C. REITER AND M. C. RYPINSKI



THE dominant note in the 1919 Pittsburgh Salon may be expressed by the one word "Control." By control is meant control of art-expression and medium. There is nothing strident about the Sixth Pittsburgh Salon, no straining after the impossible and yet, it is, all agree, the most powerful and compelling exhibition of pictorial art in photography that has graced the walls of the Department of Fine Arts, Carnegie Institute. There they hung in quiet array—carbons, bromoils, gums and all the other mediums in subdued tone-keys, restful motives but with an inherent strength and power, reminding one no longer of the immature inexperienced abandon of former Salons, but reflecting, instead, consciousness full grown and aware of its responsibilities and power.

Many new and promising workers were in evidence; but, as usual, the major portion of the exhibit was furnished by that group of loyal pictorialists, who, by their consistent contributions, have earned the title of contributing members to the Pittsburgh Salon. On the other hand, some familiar names were missing who, due to the exigencies of war, were prevented, temporarily, from making their usual valuable and interesting contributions.

Passing now in review we were first attracted by the beauty of George Alexander's "Stately Entrance." It was one of the many beautiful gum-prints shown—the title being admirably carried out. Adjoining it was the poetic work of Laura Adams Armer, into each of which she unobtrusively and skilfully merged a nude-figure study. Charles K. Archer's "Sun-Dial" was simple and decorative. "The Lake's Marshy Shore" was beautiful in line and treatment. His "Rural Home" was a fine carbon graceful and well-balanced in composition, whereas Gertrude L. Brown's "Story Telling" was an attractive bit of difficult composition well

worked out. Capt. A. D. Brittingham of Bridgeport, Connecticut, found time enough, in spite of his enlistment in the service, to present three charming figure-studies. Alice Burr's "Under the Arches—Tunis" and "Above the City's Smoke" in low key, were characteristic of this California woman's work. Alice Boughton, of New York, showed two figure-studies, "Head" and "Paulet Thevenaz," very good in composition and treatment. A. B. Case of Jamestown, N.Y., was represented by a pleasing quintet in low key, excepting "The Sunbeam" which, although technically good, would have been improved by subduing the light upon the violin. Frederick F. Frittita, of Baltimore, was worthy of special mention, not only because he is a new contributor to the Pittsburgh Salon, but because his six prints revealed him as a worker of conspicuous merit. "The Portrait of a Young Girl" was especially worthy of mention and, probably, the most interesting figure-study of all the many in the Salon. "Sicilian Fisher-Boats" and "California Hills" were interesting examples of the characteristically meritorious work of John Paul Edwards, of Sacramento. Four other prints to his credit were, "Wanderers Three," "A Beach-Frolie," "On the Carmelian Coast," and the "Song of the West Wind."

Dr. A. D. Chaffee, of New York, as usual, excited wonder and admiration as a bromoil-worker. Six excellent prints bore testimony to his supreme technique, viz., "Brixham, Devonshire"; "Cordes, Tarn"; "Knitters in the Sun, Concarneau"; "Breton Road"; "Port-Vendres, Roussillon"; "Weisser Turm, Rotenburg o. d. Tauber." C. W. Christiansen, of Chicago, evinced breadth of vision and feeling in his four prints. His "Cedars, Sedate" was a delightful vista. B. H. Chatto, Pittsburgh, has two prints, "Back Home," and "The Day's Work is Done," the last-named picture telling of



THE COUNTRY-CLUB OAK

EDWARD LAROCQUE TINKER

PITTSBURGH SALON

the end of the day, with the farmer's boy watering his team at the creek.

Dwight A. Davis, of Worcester, Massachusetts, pleased with a charming interior of olden days entitled, "Home-Industry." Mrs. Emily H. Hayden, of Catonsville, Maryland, has been a consistent contributor to the Pittsburgh Salon. She had four prints of her usual style and merit. Francis W. Cowell's "In Arvia's Locker" was an unusual carbon of fine values. "Watagate, Moonlight," was beautiful in composition and showed rare skill in handling his subject. Six very interesting figure-studies bore witness to Louis Fleckenstein's ability as a portrait-pictorialist. "The War-Widow" was hung in London at the last Salon; but the portrait of "Miss Lucy S." was simpler in composition and more attractive to us. Mrs. Doris U. Jaeger's five prints exhibited greater strength in conception than in execution.

"Making Curtains," by Thomas R. Hartley, of Pittsburgh, was by no means as commonplace as the title implies. The tone-values were admirably transparent. Louis A. Goetz, of Berkeley, California, presented, in "Spirit of the Alpine Storm" and "Humiliation," a pair of his characteristically symbolic nude-figure studies. Three water-scenes, by John Wallace Gillies, were worthy of mention for their quiet beauty.

Arthur F. Kales, of Los Angeles, a competent judge in the selection of subject and quite unfortunate in adaptation of his models to work out his themes, presented six characteristic pictures. His portrait in "High Key" was beautifully transparent; "Daughter of the Desert" was a fine oriental on long-range contrast; "The Jewel of Asia," strong and forceful; "In the Days of Grandmama" we found a beautiful picture of a fine model at the finish of her dance.



PORTRAIT OF A YOUNG GIRL

FREDERICK F. FRITTITA

PITTSBURGH SALON

And now we come to a worker of strong individualism—Margrethe Mather, of Los Angeles. Her five figure-studies embodied the same motive and treatment—a wall, a figure, a shadow on the wall and a wall-accessory to complete the composition. She used an interesting Chinese subject with oriental feeling and understanding.

Lawrence C. Randall, of Columbus, Ohio, revealed in his "Transfigured" a full understanding of this term. The subject was a winter-group of snow-clad bushes and trees not, as might be expected, burdened and heavy with snow, but delicately transfigured in its whiteness. That ever interesting pastoral, "Sheep in Evening Sunlight," was nicely portrayed in J. G. Sarvent's "Closing of an Autumn Day." J. George Midgley evidently labored long and earnestly over his two gum-prints, "March and Forest-Shadows." In composition and technique, they were convincing. "The Trysting Place," by Sophie L. Lauffer

of Brooklyn, told a sweet, olden-time story of a maid and an oak. "Elms by the River," the work of G. Buell and Hebe Hollister, was poetic and effective. Claude L. Moore, of Buffalo, creditably portrayed again the ways of the waters around Buffalo—"After the Storm," a particularly striking vista between trees, of sails and sky, very painterlike in composition and quality. And now we come to a group familiar in technique and world-renowned—the work of that Buffalo genius, W. H. Porterfield, one of the staunchest supporters of the Pittsburgh group and jointly responsible with it for the early and continued success of its Salon. Six beautiful carbons make up his panel, each one a "Porterfield." Another staunch supporter is Dr. D. J. Ruzicka, of New York. Of his six contributions, his "Pennsylvania Station, New York" was a beautiful architectural symphony of sunlight and shadow. Now we have a new name from



MAE MURRAY

FORD STERLING

PITTSBURGH SALON

the Land of Sunshine—Ford Sterling, Los Angeles—this, his second Salon entry—first at London, now at Pittsburgh. His work was excellent, clean and beautiful, and his subjects were well chosen. He had the "Tong Man," "Mae Murray" (most delicate values, a wonderful print), "Teddy," "Emily," "Reveries," and the "Two-Sword Man"—all with superb quality and graceful in composition.

Oscar Maurer, of Los Angeles, understands his medium, but his pictures could have carried greater connection. Francis Orville Libby deals in great masses, his six multiple-gums telling their story of grandeur and majesty. "On Lake Como," by H. A. Latimer, of Boston, reminded one of Japan in its pictorial design. "The White Bridge" and "Souvenir of a By-Gone Day," by H. Y. Simmons, of Virginia Water, England, were interesting examples of the technique of our British brethren.

Edward Henry Weston, Glendale, California, said compellingly, "Here are six poem-pictures; read for yourselves!" His treatment and subjects were similar to those of Margrethe Mather

—his figure in the nude was without parallel in this exhibition—his "Portrait of a Lady" was distinctive, as was his character-study, "John Cowper Powys." Dr. Rupert S. Lovejoy, Portland, Maine, like his friend Libby, also dealt in multiple-gums and had the full allotment, six prints, to his credit. "A Mountain-Decoration" was especially attractive. "Diana and the Nymph" and "Nocturne," both in low key, showed his unusual conception. Among the New York contingent, we found William Gordon Shields with a collection of five, much superior to his former work. His technique was splendid—his subjects strong and interesting. "The Orange Girl," "The Shadow of the Patio," and "Corinthian Columns," pleased us most. His medium gum and bromoil.

"The Country-Club Oak," by Edward L. Tinker, of New York, was one of the highspots of the Salon—a bit of work that the painter likes, splendid in composition, sunlight beautifully rendered and a picture of merit. His head of a marine, "With Face Set toward the Western Front," told the story of the resolute kind that



WATER-SCENE
JOHN W. GILLIES
PITTSBURGH SALON



CEDARS, SEDATE
C. W. CHRISTIANSEN
PITTSBURGH SALON





KNITTERS IN THE SUN, CONCARNEAU

A. D. CHAFFEE

PITTSBURGH SALON

America produced to turn the tide for humanity. His "Courtyard of the Wine Merchant" and "Cool Shadows Chez Antoine" were splendidly rendered subjects.

"Study—Girl with Black Hat," by Joseph D. Toloff, of Evanston, Illinois, was another of the very lovely portraits, whereas his "The Spider," was somewhat vague, unless one knows the story of the comedian part portrayed. "Autumn-Morning," by Floyd Vial, of New York, was a very charming landscape. "The Thaw," "Banks of Drifted Snow" and "A Herald of Winter," by Thomas O. Sheckell, of Salt Lake City, were well-rendered subjects and, although the composition was somewhat at fault, they did not fail to please.

Will H. Walker, Portland, Oregon, presented "The Early Edition," a pleasing print, showing the early news-vender in a characteristic Portland wet morning. "The Artist," by Eleanor W. Willard, Grand Rapids, Michigan—the only red chalk-gum shown—was the most attractive of her three exhibits, and displayed her usual

skill and handling. Dr. William F. Mack, Los Angeles, a new contributor, showed four figure-studies, which, although not spectacular, were beautifully posed. In the splendid head, entitled, "We Spend Our Years as a Tale that is Told," "My Mother," and "Lorado Taft," we saw the personality of Jane Reece, artist.

N. S. Wooldridge, of Pittsburgh, is an artist-worker in carbon and showed five fine examples marked by much feeling and expression. His "Boyhood Days" and "Sisters" were very lovely in composition and technique. "The Beautiful Snow," by John W. Newton, Columbus, Ohio, was a well-chosen street-scene in a driving snow-storm, showing wonderful atmosphere and restraint of the superficial.

"Stranded on Fire Island Beach," by William H. Zerbe (the always-to-be-relied-upon contributor from Richmond Hill, N.Y.), showed the big hulk of a stranded army-transport with the life boat being manned and sent to the rescue, correct in composition and values. "Floating Sunshine" and "Creation," by Frank Hennies,

Eureka, California, are beautiful mountain-and-cloud studies in warm gray and black, but almost too small to attract the attention they deserved.

G. W. Harting, New York, displayed skill in the rendering of his "Jugend Man" and "Portrait of Howard Giles." In "Greenwich Village," by the same artist, we had an atmospheric rendering, correct in detail and pleasing to the eye. Mr. Harting's technique is always good. A delicate delft-blue print carried out the portraying of a fine model in Dutch costume entitled, "Memories," by Albert F. Snyder, Utica, N.Y. W. A. Hudson, of Los Angeles, had two prints, "The Guardian of the Tower," and "The Joe Hunter," in his usual poetic style. "After the Blizzard," "Memorial Gate," and "Brittany Street"—three lovely bits, beautiful in execution and treatment, by Dr. Charles H. Jaeger, of New York—suffered somewhat by being diminutive.

Dr. Charles B. Piper, Milwaukee, just missed one of the best things possible in his "Haze on the Far Horizon," which a stronger print would have saved. "The Alarm," by Edward I. McPhall, Buffalo, was a fine carbon, strong and well executed, representing a primitive man in the open, ready for combat with an enemy.

"Man's Genius Versus God's Creation," by R. J. Mitchell, Toronto, Ontario, has found in the sky man's genius in the airplane, side by side with three gulls, apparently equals. The story was well told in his picture. Three splendid figure-studies came from Alexander P. Milne, formerly of Portland, Oregon, now of New York—"East is East," the "Silver-Scarf," and "The Attie-Window." The last was in delicate values and showed a pleasing figure against the light. Richard T. Dooner exhibited two pictorial portraits—"Madam DuPont Joyee" and "Miss C."

For the lack of space, some names have been omitted in this review, and not because their work was unworthy. Each print shown had merit and all contributors were to be highly commended.

The ensemble, imagine if you please, a well-lighted gallery, sixty by one hundred and fifty feet, walls of burlap, pictures spaced so each stood alone, and each covered with glass, one entrance through the beautiful white-marble hall of sculpture with its bronzes and casts, two other entrances through the galleries containing the permanent collection of paintings. The environments were the most happy imaginable.

Economy of Chemicals



WHEN we compare the present prices of nearly all chemicals with those that ruled before the war, we find that the increase in the year's expenditure in this direction is a serious matter. And as it is a matter of percentages as serious for the small user as for the large one, whether the expenditure be five pounds or five hundred, it is important that full value be obtained for it, and this can be done only by keeping a watchful eye upon every stage of the work.

Very often, waste begins even before solutions are made up. This is due usually to the lack of proper receptacles for the stock when it is delivered. Quite often chemicals, such as sulphite and carbonate of soda, alum, and even ferricyanide, are purchased in paper packages of twenty-eight pounds or less, and taken into use at once without putting into proper jars, the parcels being laid upon any convenient shelf exposed to the air and dust, besides often being scattered upon the shelf or floor. It certainly

should not be necessary to allude to such a state of things; but it undoubtedly exists in many places, and should be stopped without delay. Next to this is the practice of guessing at quantities when mixing solutions, for in this way a loss of ten to twenty per cent. may easily occur, especially in the heavier kinds we have mentioned. It is not necessary to weigh most chemicals carefully, as a system of dry measurement is usually sufficiently accurate, but it is desirable to keep in each jar or cask a measure which will hold, what may be called, the unit-quantity, so that any boy or girl may be entrusted to make up the usual bulk of solution without supervision. Nearly everybody makes up certain quantities of solution at a time. To take the case of pyro developer, for instance, the jars holding sulphite, carbonate, and metabisulphite should each contain a vessel such as a jam-pot or one of the cardboard canisters now commonly used, which, when filled to the brim and struck off level, will hold exactly the quantity required for a Winchester of solution (eighty ounces). The card-

canisters are convenient, as they may be cut down to the right depth with a penknife. The pyro itself is supplied usually in ounce-bottles, so that no measurement is needed, but if purchased in bulk in the crystal-form it should also be measured, or, if in the old resublimed state, carefully weighed. This should be done not only as a means to economy but also as tending to uniformity of result. The same system should be applied to other solutions, such as amidol, hydroquinone, and such things as reducers and intensifiers, the only exception being when the stock-solutions are saturated ones. With amidol developer the practice of making a stock-solution of sulphite and adding the dry amidol, as needed, is an especially wasteful one, as there is always the possibility of using more than is needed, and, moreover, neither the mixed developer nor the sulphite solution keeps in working-order so long. The better way is to make a fair quantity of solution at once with the addition of metabisulphite as a preservative. A good formula is two ounces of sulphite of soda and a drachm of metabisulphite dissolved in twenty ounces of water to which is added a quarter of an ounce of amidol. This is diluted with an equal bulk of water for use, and will keep in good order for a week or more. It is frequently the practice to throw away amidol solution which has been little used, and although we do not advocate overworking it, it has been found quite practicable to keep used developer over from day to day, adding fresh as needed. In one studio the amidol was kept in a jug after use, and thrown away only when the excess of bromide rendered it necessary. The prints produced by this procedure were as good as most that we have seen. In this case we may say that no bromide was used in making the original solution.

A very common cause of waste is to be found in a hurried, sloppy method of working, by which much solution is carried away upon the prints, *e.g.*, when removing enlargements from the fixing-bath. If a print is lifted quickly out of the hypo, quite an appreciable quantity is carried into the first washing-water, and at the end of the day's work the bulk is seriously reduced. With hypo at six shillings a hundredweight this

is a small matter; at sixty shillings it is not. Even more wasteful is this practice in sulphide-toning. Some printers waste quite half of the costly bleacher in this way.

Those who still work the gelatino-chloride or printing-out paper-printing, will find that the Eastman system of allowing a definite quantity of gold to a certain number of prints is a very economical way to work, virtually all the gold being used. For the benefit of those unacquainted with the plan we may explain that if a grain of gold be allotted to each dozen cabinets for a purple tone, by diluting the solution a larger number may be toned to brown or still more to a reddish color, all the prints being put in at once and allowed to remain until the bath is exhausted. This not only saves gold, but ensures even toning.

Using an excess of solution for any purpose is so obviously wasteful that it hardly needs mentioning, yet it is done frequently. We have often seen three times the necessary quantity of ferricyanide reducer made up for cleaning a few bromide prints, whereas pyro developer is often used in a too lavish manner, especially when concentrated stock-solutions are used. It is false economy to stint the developer, and many poor negatives are the result, but many assistants habitually use twice as much or even more than is really necessary.

Although not strictly within our subject, the waste of bromide paper through careless cutting or tearing deserves a word. One often sees prints with a margin nearly half the area of the finished print. This is not only wasteful of paper, but of all the solutions used. Odd-shaped enlargements such as eleven by seven upon twelve by ten paper run away with a strip which, if trimmed off before exposure, would serve for tests or even for small prints. All these little things mount up in a year, and even if the exact amount saved cannot be calculated, the profits will appear appreciably better. War-time orders are at an end now, and it is well to bear in mind the old proverb that "a penny saved is a penny earned." There is another which says "penny-wise and pound-foolish." The wise man will steer between these extremes.—*The British Journal*.





CASTLE ROCK, SANTA BARBARA

H. F. VAN WINKLE

In the California Mountains with a Camera

H. F. VAN WINKLE

FROM earliest childhood, my greatest delight has been to get into the mountains. As a small boy, my attention was early elained by the hills where the Chillicothes grew, the low Mesa which lies between the Pacific and my native town; then on Saturdays and during vacation-periods I began to get acquainted with the canyons and trails of the Santa Ynez mountains that rise to a height of 4000 feet on the other side of the town. From the tops of these mountains I looked across into the still higher San Rafael, with which I next became familiar, and from their peaks viewed dimly through miles of desert haze the lofty snow-capped Sierra Nevadas became the goal of my desire. This desire I have been able to satisfy only in a slight degree, and I am still planning for that summer, sometime, that I hope to spend in a leisurely jaunt from the Kern River Canyon to the Yosemite and dreaming of the plates and films I am going to use on the choicest bits along the way.

A few of us have seen and most of us have read of the wonders of The Yellowstone Park, The Grand Canyon of the Colorado, The Yo-

semitic Valley, Glacier National Park, Crater Lake, Lake Tahoe, the Big Tree Groves and the other best-known recreation-grounds of the West; but very few of us, comparatively speaking, know of the thousand other mountain-sections second only in grandeur and beauty to those mentioned above that lie within the boundaries of our National Forests. Frank A. Waugh, in a recent contribution to PHOTO-ERA, speaking of National Forests, says, "California, also, has its splendid National Forests as well as its beautiful National Parks. These include virtually the entire upper Range of the Sierras and offer a combination of forest, stream and mountains not to be surpassed anywhere in the world." Some recommendation! and Mr. Waugh is not a Californian, either. Through the activities of the Sierra Club and the increasing number of our citizens who are passing on to others, the tales of the beauties they have found in these Forest-sections are fast becoming famous. The Kern River Canyon, Mt. Whitney and vicinity, The Kings River Canyon, The Tehipite, Tuolumne Meadows and the Hetch Hetchy are now names that mean much to many of us, and these are only

a very few of the many points in the Sierras that in many ways are more attractive to the true mountain-lover than the better-known National Parks with their auto-busses, guides and Saturday-night "Dancers." I do not come before the readers of PHOTO-ERA as an expert mountaineer or an advanced amateur, but only as one who has made a few short trips into the Sierras and who has found his camera one of his most enjoyable companions.

real pack-trip back into really wild country and, more especially, to those who are also beginners in photography.

To persons who anticipate their first camping-trip into the Sierras, my advice would be to read, for a general knowledge of the country, as many as possible of the following books: John Muir's "Yosemite—Our National Parks," and "Mountains of California"; "Yosemite Trails" by John Smeaton Chase, and "The



CLOUD-LAKE, LAKE TAHOE

H. F. VAN WINKLE

The views that accompany this article were made, for the most part, hurriedly from the trail in passing, without time to choose the best view-point and with no choice as to lighting. They are offered as suggestions merely, of what is waiting to be gathered in by the man or woman who goes into our California mountains with a camera, however simple, and is willing to give a little time and thought to the photographic pursuit. It is only in the hope that they may arouse the desire in some one to go and get better ones, that I have the courage to offer them for publication to the publisher of this magazine.

The Sequoia National Park and the territory that lies in the National Forests adjoining it and extending along the Range from the Yosemite to the Kern River Canyon, is typical of the Sierra Nevadas, and it is to prospective campers in this country that I am writing, especially to those who are making their first

Mountains and the Pass," by Stewart Edward White. Then, for real practical information on camp-outfit, and packing and traveling in this region, the beginner cannot do better than to read Stewart Edward White's "Camp and Trail" and, having read it, to be governed by the advice there given. It is written by one who knows his subject. The excellent topographical maps that may be purchased direct from The Director, U. S. G. S., Washington, D.C., or from local dealers at a few cents advance over the Washington price, are a great help in seeking one's way about, and are published for virtually all sections of the country in question. Cut them into convenient pocket-size sections and paste them onto muslin leaving about $\frac{1}{8}$ inch space between sections. They will then fold easily and without damaging the printed portions. On application to the supervisors of the respective National Forests "Recreation-Maps" of the individual Forests may

be obtained free. These show all trails and the best camping-grounds and hunting-districts in that forest, as well as the geographical features and principal elevations. The supervisor will also give advice as to best points from which to outfit and information regarding the purchase or rental of saddle and pack-stock. Every camera-enthusiast has his own ideas as to the ideal outfit for a mountain-trip, and said outfit will agree with these ideas as nearly as pocket-book and conscience will allow.

Many of us, however, cannot buy both high-grade cameras and War-Savings Stamps. In this connection, I would offer a word of encouragement to the person with only one camera, especially if it is a cheap one. Do not take a trip into this country without that camera nor think that, because it is small or cheap, it is useless to attempt to take mountain-pictures with it. Some of the mountain-pictures that I prize the highest I took with my old 3A F. P. K. with its rectilinear lens and cheap shutter and I know many who have had the same experience. Do not despise the cheap camera, nor underrate your ability to get results with it.

Get the fundamental principles of photography in your head; learn the limitations of your camera and then strive to get the best pictures you can with it. If you will use a tripod, wherever possible, even for snapshots, a ray-filter for cloud-effects and let the sun strike over your shoulder or even from the side occasionally instead of from directly behind you, as the old rule went, and put into practice a few of the simpler rules of composition, you cannot help getting some good pictures. They may not all be artistic, but many of them will be records of views and events that you will always be glad to have and which will give your friends some idea of the glories you have seen and create a desire to go and do likewise.

The amount of photographic outfit you can take will depend on whether you are on a walking-trip or a horseback-trip and, if the latter, on the number of pack-animals at the disposal of your party.

For myself, I carry first of all a V. P. K. fitted with an anastigmat lens. This I carry on my person *at all times*.

By all means, if possible, have some such small camera and keep it always on you. Then, whether walking or riding; hunting or fishing; in camp or traveling, you are prepared to capture any little view or event that takes your fancy and which very likely you could not corral if you had to get out and open up even a folding pocket-camera and get it into action.

There are sure to be many little happenings along the trail, to which you will not feel like devoting a plate or large film that you will be able to pick up with the miniature camera, which will add much to your enjoyment when going over the prints of the trip—your wife's expression when she catches her first big trout; the old white pack-mare mired down in the bog hole, or the face of your companion the day after he mixed it with the yellow jackets. Little things like these need to be made quickly, and sometimes unobtrusively, and the little old V. P. K. is "Johnny on the spot."

At times also you may surprise a very choice bit of scenery when miles away from camp and your larger camera. This would be lost entirely if it were not for your constant companion. An enlargement from this film may bring back memories that you would not be without for a good deal.

For most of your views made from the trail as you pass along, and even for most of those made more deliberately in the vicinity of camp, a camera of the type of the 3A F. P. K. will probably prove most satisfactory. You will find that most mountain-men, who photograph at all, use such a camera. It is reasonably small, comparatively light and extremely effective. If possible, have it equipped with an anastigmat lens and an up-to-date shutter.

Should you be short of transportation facilities, this camera will answer for all your work, if you will carry a tripod and ray-filter for it. If you have plenty of transportation, however, it will be a great satisfaction to you to have, as well, a view-camera with long bellows-extension, either 5 x 7 or 6½ x 8½ with kits for smaller plates. If possible, have this camera equipped with a convertible anastigmat.

This camera you will use for the very choicest views, especially those that you can reach easily from your central camps and on which you will do well to focus from different view-points and in different lights until you are sure of the exact position and time of day for the best results. You will also use this camera with its long draw for close-ups of flowers and plants, and for distant mountain-views with the single element of your lens. It is in taking views of one mountain from another that the great advantage of the convertible lens is discovered, for the use of one or the other of the single lenses will bring up the size of the individual mountain you wish to picture and give you a negative in which one mountain predominates and not one showing several square miles of mountain-scenery with your particular mountain dropped down somewhere in the jumble.

A film-pack adapter, in the case of a 5 x 7 camera, with a supply of film-packs, will do much to encourage you to make tramps to high points from which you may get superb views, but where you dread to carry the weight of plates in addition to that of the camera.

Although you will be frequently tempted to make exposures on extensive views and will sometimes do so and will occasionally get a grand negative by so doing, you will find, as a general rule, that a view of one mountain

include its top, even with a strong tilt to the camera, and still have a desirable foreground. In that case, it is often possible to climb a tree and cut away a few branches for an outlook or, in extreme cases, by half an hour's hard climbing to get far enough up the opposite canyon wall to get a view that is more desirable than anything you could have obtained from the canyon floor with a view-camera having a rising-front. If the picture is not worth an hour's climb, let it alone. The "Grand Sentinel"



KENNEDY MEADOWS, SIERRAS

H. F. VAN WINKLE

or grand cliff or a short stretch of stream will be more effective and will give you and your friends more lasting pleasure than negatives that take in large expanses of country.

The greatest drawback that I have found to the use of the folding camera of ordinary construction, for mountain-work, is the limited movement of the rising-front. It is often impossible to show an entire tree or cliff while holding the camera level. It is well to remember in such a case that the camera may be tilted quite a bit to bring in the top of the cliff or tree and that this will not be noticed in the print, provided there are no lines involved that we are accustomed to see absolutely perpendicular.

Occasionally, a cliff will rise so high and straight, that there is not room in the narrow canyon at its base to get back far enough to

was taken in this way. However, in this case, a view made from the meadow at its base with a view-camera with raised front would have been more effective and, if taken with a bunch of horses feeding in the foreground, not too far from the camera, would have given a better idea of its height than it is possible to convey by saying that this point is nearly as high above the valley-floor as anything in the Yosemite, or that the white rocks at its base are as large as a one-story bungalow.

Every person who examines a landscape-print, and seeing in it an object of familiar size, unconsciously uses that object as a scale whereby to judge the size of the rest of the picture. For this reason, it is always well to incorporate some such object into views of mountain-scenery, where the intention is to



"TRES HERMANAS," SEQUOIA NATIONAL PARK

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convey an idea of the magnitude of the scene. This is also true of pictures of trees, flowers and plants. A saddle thrown down at the base of a tree; a sombrero or pair of spurs or even a jack-knife alongside of a plant or flower will give a scale whereby to estimate the unusual size of our Western Flora; when a specific statement of dimensions would be given at the risk of secret if not open disbelief in the veracity of the photographer. When photographing "A Hard Road to Travel," I have always regretted that I did not include some object that would have shown by comparison the size of the pits in the snow. These varied from the size of a present-day sugar-bowl to that of a small wash-tub, and as the surface was hard they made travel a bit trying in the course of a few miles.

There is such an abundance of material presented to one's camera that it is difficult for the beginner, when he first gets into this Sierra country, to refrain from using up his films on what elsewhere would be considered most desirable views, but which here are not by any means the best obtainable, as he will find when he gets into the heart of the mountains and learns to distinguish between the more common views and the choicer ones. The constant use of the tripod will help some in this respect; for during the time necessary to set it up and try different positions, one's first opinion of the subject is likely to change. If a view does not seem worth the time and trouble to get out

and set up the tripod, let it go. Films in the mountains are not to be had just around the corner and, believe me, you are apt to regret most bitterly any that you waste.

In the Sierras, during the summertime, you will frequently have clouds to add to the beauty of your landscapes. Sometimes, they will be heavy as in "Thunderheads" and, sometimes, scattered above the granite as in "Cloud-Lake." In most cases, the negatives in which they figure will be more printable if a ray-filter is used during the exposure. The Cramer people make a most satisfactory line, especially desirable if one is using Cramer Isochromatic plates. The use of the ray-filter increases the exposure and, consequently, you need your tripod or other rest for the camera.

Up in the Granite, in some lightings, the correct exposure for the gray granite rocks is so very little longer than that for the sky and clouds, that the latter will show well without the screen, provided the exposure for the rocks has been correctly estimated.

But even then, as the screen will slightly darken the sky, it will give a better definition of the mountain-skyline and if the mountains are snow capped, as in "Velmer Lake," it is absolutely essential for best results. However, if caught without one, and the clouds are especially fine, do not work for detail in your foreground, but let your mountain be simply a base for your sky and clouds, and shorten your exposure to the minimum. If your moun-

tain-top is either timbered or composed of jagged, bare peaks, the effect should be well worth striving for.

For most cloud-work, here, a three- or five-time filter is sufficiently strong; but it is well to have a stronger one in reserve. If the "Sky-Shade Filter" does what is claimed for it, it should be of great value on a trip of this kind. Your deeper ray-filter will also be of great assistance to you in photographing certain kinds of wild-flowers which abound in these localities. The flowers and trees of this section, in themselves, offer material for more than one summer's work. If you can find room for it in your pack, a copy of Parson's and Buck's "Wild Flowers of California" and one of Chase's "Cone-Bearing Trees of California" will add much to your enjoyment and if, in addition, you carry one of Wheelock's "Birds of California," and give a little time to the feathered life, your cup of happiness should be full.

On account of the reflection from the snow and bare granite—that prevails at elevations in excess of 8000 feet, and in places at lower elevations—the person not accustomed to judge the actinic strength of the light, will do well to give about one half of the exposure given ordinarily at sea-level in California; and in the timber, especially among the Sequoia where much of the light is absorbed by the dull reddish bark of these trees and where, of course, there is much shade, anyway, double the normal exposure.

Remember that you can cut down your light (or exposure) more accurately by using a smaller stop than you can by using a slower speed in your shutter, and in the case of a rectilinear lens you better your definition, at the same time. Needless to say, if you are out for records of what you have seen, you do not want any soft-focus effects, especially if your negatives are small and, in all probability, you will want enlargements from them. When it comes to the enlargement, that is a different matter; and a soft-focus lens, used properly on a sharp negative, should give you very desirable pictures. Increasing your exposure over the normal is done best by using a slower shutter-speed and the use of the tripod. In the Big Tree Groves, snapshots are usually worthless. These Big Trees or Sequoia Gigantia extended at one time in an unbroken belt along the western side of the Sierras at an elevation of about 6000 feet. They were cut through, ages ago, by the glaciers and are now in groves separated from each other by canyons of varying widths. One or more of them should certainly be visited by the ambitious camerist.

It is extremely difficult for one to realize the immensity of these trees until they are seen and then, when one stands for the first time alone beneath these grand old sentinels of the past, and remembers that they were in their prime when Christ walked on this earth and were well-grown trees when Moses lay in the bulrushes, and he lets his mind run back over the events of the ages during which they have towered there in their mountain-solitudes, they begin to lose their reality as inanimate objects and to take on something of a superior personality that fills one with awe and causes him to feel that man is very small and the doings of one generation are of very little importance in God's plan for the universe. And yet you will hear of people that look up into these towering giants and figure how many thousand feet of lumber could be cut from one of them, and how much it would sell for down in the valley. You will see great fire-scars on the broad sides of these old veterans, some of them six to ten feet burned deeply into the solid trunks and running from ten to thirty feet up their broad sides; all through carelessness and disregard of the birthright of the Nation.

Congress, thanks to the efforts of some of our noble-minded citizens, has now set aside a number of National Parks for play-grounds for all the people and has made rules and regulations for the commonsense-use of our National Forests—and I trust that the act is going to include more territory within their boundaries—that they may render the greatest good to the greatest number. It is the duty of every true American citizen to back up Congress, in this matter, by every means in his power, and the least that anyone can do when camping or traveling on the Public Domain is to take all possible precaution against the spread of fire. Take even greater care than you would on private property. The Forest Service is doing all it can, with the men and funds available, to administer properly these great estates of ours and, especially, to prevent waste from fire. In this work, they need the coöperation of every forest-user. Cultivate the acquaintance of the Rangers that you meet; they are doing a great and largely unappreciated work. It will be worth your while. If you are ill-informed, ask them for instructions for the proper use and care of your camp-fires and then follow those instructions to the letter. The reason is obvious. It is the camper's business to *know* that his match is *not lit* when he throws it down and to *know* that his camp-fire is *out* ENTIRELY OUT—before he leaves it. The vital importance of this advice should be kept in mind.

Architectural Traditions for the Photographer

Byzantine, Romanesque and Gothic Styles

EDWARD LEE HARRISON

IT is a far call from the mighty Pyramid of Cheops to the Woolworth Building. Slow and painful the transitions; yet, many and beautiful are the variations which the genius of man has devised through the intervening ages. In tracing the periods of architecture from an historical standpoint, we should begin with Cheops; yet to get a proper perspective in modern design, we have elected to begin with the architecture of Greece and Rome; and, at present, it is from this point that we will continue.

We have referred before to the Roman genius for engineering. As the experience of the Roman builders became more extensive, their daring increased, and their arched and vaulted domes assumed vast proportions. Then, came the exotic Eastern mind from Byzantium, with its intricate and beautiful system of embellishment, and, fusing with the Roman structural genius, produced the temples, churches and cathedrals which have proved models for all time. Possibly, these two forces, unaided, would have fallen short of the mark attained. But at this time there arose a new force, titanic and untiring, which vitalized the pagan-work with the spirit of true religion—Christianity. And ever this spirit waxed and multiplied, until it became the controlling influence in East and West alike, and the Church became the greatest power in the world. What wonder, then, that ecclesiastical architecture became the ruling passion, and that cathedrals were conceived and planned in one generation, to be finished by the children's children of the men who originated the work.

So strong is this feeling of religion in connection with the Romanesque and, particularly, the Gothic styles, that buildings designed to-day

in these styles become unconsciously associated in the general mind with the spirit of reverence. School and college buildings, libraries and public buildings of this character, command greater respect than if built according to any other period of design. It is not at all uncommon for professional builders to refer to a Gothic mercantile design as "churchy," yet the style is well adapted to all kinds of building, and, indeed, in many cases is both more practical and economical than the popular classic style.

The photography of the styles of architecture that we are discussing cannot fail to be influenced by the conditions under which they were conceived originally. The Byzantine and Romanesque architecture, with its flat surfaces

embellished with crisply-cut ornament, is undoubtedly shown best with sunlight falling upon it. Yet, a different sun from the brilliant one demanded by the Greek and Roman designs seems to be required. Why this is so, we cannot tell; yet, slanting lights and a "cold" sun seem to bring out best the stately character of the work. Another characteristic that creeps into the Gothic work seems to call for snow-



GOTHIC DETAIL

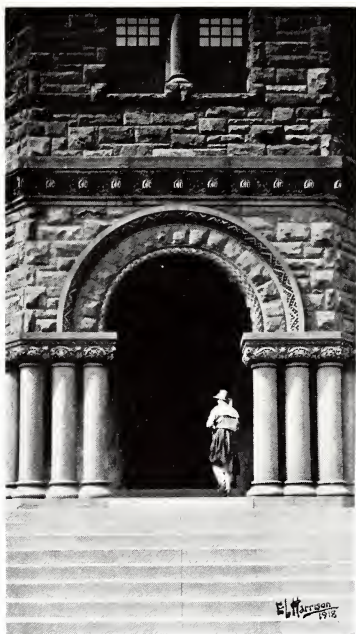
EDWARD LEE HARRISON

scenes. Some of the most beautiful monastery-compositions have been made under the cold sun of a winter-day, with the landscape mantled with snow. There are a few exceptions to this rule—notably the Spanish Gothic; yet, there are artists who prefer to link the Spanish work with Moorish art, and thus confirm the rule.

A large part of the Romanesque work is executed in colored stone, notably red sandstone, and frequently mosaic is introduced. This calls for ray-filter work, and we will discuss some other practical details, shortly. On the other hand, much of the Gothic is executed in plain gray stone, and the success of its portrayal



ROMANESQUE DETAIL
BYZANTINE SKETCHES
EDWARD LEE HARRISON



ROMANESQUE FAÇADE EDWARD LEE HARRISON

lies rather in grouping and massing than in detail. True, the tracery of the windows and the elaborate groining of the vaulted ceilings, furnish material for detail, which the true artist will not fail to bring out.

The original form of the Byzantine temple was central—that is, the plan was grouped closely around a pivotal point, being frequently polygonal or circular in form, and latterly in the form of a Greek cross. On the other hand, as the Romanesque and Gothic styles developed, they followed the line best adapted to fulfill their primary purpose, viz., the proper carrying out of religious services. This produced the Basilican type, following one primary axis, and this centered upon the choir and the altar; the plan being generally in the form of an elongated cross, or series of crosses. It is upon this plan that the world's greatest cathedrals have been erected.

As the Romanesque style began to merge into the Gothic, we see the domes becoming higher and breaking into the vaulted and barrel-forms; the arches pointed instead of round, and the towers rising into lofty spires. We see the massive buttresses becoming deeper and less wide, until they spring out from the walls in arched segments, as if they would take unto themselves wings, and become what the builders so aptly named them—"flying buttresses." In the great cathedrals these supports may frequently be seen rising above the roof of the penthouses on each side of the central chancel. Sculpture was added at the insistence of the churchmen, who could not allow their beloved temples to remain untenanted even while they slept, so must needs people them with the forms of the living, carved from the beautiful and laboriously collected stone of which the temples were built.

Some of the more elaborate places of worship—notably Hagia Sophia, in Constantinople—have the treasure of a kingdom upon their inner walls. The cathedral of Notre Dame, Paris, is priceless in its carvings, its decorations and its relics. The doors are ornamented with fine early Gothic carving, above which are the figures of twenty-eight kings of Israel and Judah. Among the relics are deposited a fragment of the true Cross and a duplicate of the Crown of Thorns. With these facts in mind, the pictorialist cannot treat his work with levity. The photography of a temple which has required the unremitting labor and thought of man for a hundred years, becomes at once a work of importance; and in striving for that atmosphere which is the life of every good composition, the feelings which influenced the designer cannot fail to be of weight with the pictorial portrayal of the work.

Regarding the character of the photographic apparatus to be used, certain severe limitations are imposed. The lofty height of many of the buildings demands mechanical adaptability of a high order in the camera; and the fine detail in the ornamentation of the subject, definition in the lens. The so-called soft-focus lens has small place here. The colored character of the stonework and the stained glass and frescoes of the walls, all demand the use of a ray-filter. Many times, the final pictorial expressions of the artist can be displayed with splendid effect in simple grays and sepias. In the few cases demanding color—particularly the interiors—it had best be used with dignity and reserve. As before stated, it will be found that many buildings in the Romanesque style are constructed of red sandstone, or of buff and reddish brown terracotta. Apparently, the best results are obtained by

the use of the bichromate of potash liquid-filter, using about a three-time prepared solution. Such a filter will assist the photographer in his work.

The best of lenses, shutters and cameras is demanded. The intricate character of much of the ornament deserves careful artistic and technical attention. One of the finest photographic outfits we have seen is a good-sized reflecting-camera, equipped with a first-class convertible anastigmat, telephoto-attachment, and several filters of varying densities and properties. The many inaccessible bits of fine

carving and statuary, to be found in the work referred to, will merit the additional outlay and, indeed, the architect and builder will generally demand these details of the photographer.

Possibly, the artisans of old would be astonished at our modern photographic equipment, which renders so well—in a few seconds of time—what it took the draughtsmen of their day weeks of painful labor to etch upon the plate. But it is more than likely that if those same craftsmen had possessed modern equipment they would amaze us with the results attained.

Making the X-ray Picture

(Eighth of the "Professor Pyro" Talks)

MICHAEL GROSS



THE subject of my talk this afternoon," began Professor Pyro, "will not deal with a phase of photography in a strict sense of the word—if by that term we imply the use of a camera and lens, or a knowledge of the manipulation of light and shade. In radiography, or, as it is erroneously called, X-ray 'photography'—the explanation of which process I have chosen as the topic for this meeting—no camera is necessary, because the X-rays travel only in a straight line; and a lens, used ordinarily to condense or focus the light, would, therefore, be useless. It is for this reason, also, that radiographs must always be made in actual size, although the finished print can be photographed by the regular process and either reduced or enlarged. Since no camera is used, pictures made by means of X-ray light cannot be considered as photographs. This is true, despite the circumstance that they are made upon sensitized plates or films almost identical with those used in ordinary photography, and that these negatives are afterwards developed and prints made from them by regular photographic processes.

"My reason for going into the subject of radiography at this time is chiefly because of its timeliness—for, without the use of the X-ray, our surgeons would lose many more cases than they do. By means of this discovery, an immense number of surgical operations are either rendered entirely unnecessary or helped materially. When a foreign substance, like a bullet or a piece of shrapnel, enters the body it is very

difficult and, at times, almost impossible for a physician to trace the substance by probing for it. However, a radiograph will reveal its position at once, and for that reason every soldier wounded in battle by a projectile is brought into the X-ray room and a radiograph is made of his injury. The fact that the X-rays can penetrate through clothing, wood-splints, and bandages makes this procedure an easy one for the patient, and when the wounded man is finally laid upon the operating-table, the surgeon has only to glance at the radiograph sent along with the case, to determine exactly where the bullet or piece of shrapnel is located in the body. To probe for the foreign substance and remove it—once that it has been definitely located—is then a relatively easy matter.

"As the generation of the X-rays is wholly electrical, I will endeavor first to give you a brief description of this phase of the subject before taking it up photographically. Of course, you are aware that any source of electricity, whether a battery, dynamo, or other machine, has two poles or terminals—a positive and a negative. If these are connected by means of a piece of copper-wire, what is known as a circuit is formed; and, when the electricity is on, a current passes along the wire. Now, if we cut this wire in the center and take out a piece of it an inch long, we will find that the electric current still tries to pass from one end of the severed wire to the other. To accomplish this, it will leap across the gap we have made. The distance between these two wires is called a spark-gap,

and the length of the gap across which the spark will jump serves as a very rough idea of the volume or pressure of the electric current used.

"It has been discovered that if this spark-gap, or distance between the two wires, is surrounded by a partial vacuum, the electric force leaps across more easily and, as the vacuum increases, the electricity is able to leap across an increasingly greater distance. The most convenient method that has been found of surrounding such a gap with a vacuum, is to fuse a wire into each of the opposite ends of a closed glass-tube and then to exhaust the air in this tube by means of an air-pump. This gives us the simplest form of a vacuum-tube, and the wires thus introduced are called electrodes.

"The difference caused by enclosing the spark-gap in a vacuum-tube can be seen readily from the fact that if the electric force used is sufficient, to make a spark leap across two inches of air in the open, this same pressure of electricity will cause the spark to leap twenty inches in a vacuum-tube. Not only is the distance of the leap thus increased, but as the air is forced out of the tube the sparks begin to pass so rapidly that there appears to be a continuous thin string of light passing through the center of the tube. If we can make our tube still more 'airless,' so to speak, we will find that this string of light will widen out until it almost fills the tube, and if we could succeed in eliminating nearly all of the air, we would discover that the tube itself would soon begin to glow.

"Professor William Crookes fully investigated these phenomena which occur in vacuum-tubes and finally evolved his theory of 'radiant matter' or 'Cathode Rays.' He also perfected the vacuum-tube which to this day bears his name.

"Lenard, a Hungarian scientist, went a step further than Professor Crookes and demonstrated that Cathode Rays could pass out of the vacuum-tube and penetrate aluminum, wood, cardboard, and other things that had up to then been considered as absolutely opaque; also that these rays were stopped by glass and other objects which had always been looked upon as transparent. Lenard also found that these rays had a photographic action and he succeeded in making photographic negatives solely through the use of Cathode Rays.

"At this stage Professor William Konrad Roentgen, professor of Physics at the University of Würzburg, while following up the vacuum-tube investigations, made an accidental discovery which started him along the road toward the X-ray. While working one day over a vacuum-tube covered with black paper, he noticed that a sheet of paper covered with fluores-

cent salt, which was lying at some distance from the table, began to glow. On investigation, he found that the light in the tube had penetrated the black paper, although this material had always been considered impervious to any light, and that the light was thus acting at a distance from its source.

"He conducted a series of experiments, during the course of which he found that paper, covered with fluorescent salt, was affected by the rays from the tube even though a heavy book or a block of wood was placed in front of it. Professor Roentgen, although the discoverer of the properties of these rays, did not know what they were and so gave to them the name of X-rays—'X' being the unknown quantity in mathematics. In January 1896 Professor Roentgen published his paper on the use of the X-rays, accompanying it with the first radiograph ever made—an X-ray picture of his own hand.

"I hope that this summary—brief as I have made it—will serve to give you a working-idea of the electrical phenomena of the X-ray and I will now proceed to the photographic process.

"If you were to take an unexposed photographic plate, place your hand over it, and then let the sun strike the surface, your hand, as you know, would present an opaque surface through which the light could not reach the sensitized emulsion on the plate underneath. Consequently, on developing such a plate and making a print from it, you would get a black shadow of a hand, and all around it would be a white border. If you were to place your hand on a second photographic plate, and, instead of using sunlight, you were to expose it under the X-rays, you would find, upon development, that instead of representing your hand as an opaque surface, the X-rays had penetrated the muscles entirely; and, to a great extent, the flesh, blood and nails, leaving only a faint shadow of the outline of the hand. You would find also, that, the rays had not penetrated the bones and, consequently, the sensitized emulsion beneath them had not been affected and will print out black, thus giving a clear, strong picture of all these bones. It can be easily seen from this experiment that if a bullet, piece of shrapnel or other foreign substance were embedded in the hand it would also have presented an opaque surface to the X-rays and printed out a solid black. Thus, by means of the X-ray we are able not alone to make pictures of all the bony structure of the body and to show the presence of foreign substances, but these rays are invaluable to determine broken bones, fractures and other malformations.

"In the early days of radiography each pict-



"DONNERWETTER! THOSE AMERICANS!!"
F. EILENDER

ure required a long exposure for the reason that special X-ray plates had not yet been put upon the market; but, in these days, snapshots may be made through any part of the body, and almost all of the moving organs have been radiographed. The newest development is the making of motion-pictures by X-rays which show the organs of the human body at work.

"The X-ray plates and films on the market to-day differ from ordinary photographic plates in that they have a fluorescent material incorporated in the film of sensitized gelatine. It has been found that the X-rays act more quickly on such an emulsion and thus lessen the exposure necessary to obtain good results. X-ray plates and films are not used in regulation holders. They are supplied, instead, in red or black envelopes which are impervious to daylight but through which the X-rays pass very easily. As I have mentioned, no camera is required in the making of radiographs. The plate or film is

placed in direct contact and underneath the part of the body to be radiographed and the X-rays are then allowed to fall upon it. To finish the radiograph it is then necessary only to develop the plate and to make a print—these processes being carried out in the same manner that you would develop a photographic dryplate and make a print from the resulting negative.

Although radiography is used for many purposes in addition to surgery—being utilized by the post-office department to detect contraband articles in letters; by the police-department to determine whether suspicious-looking packages are disguised infernal machines; by engineers to locate suspected flaws in structural work, and by miners to determine the amount of free gold in quartz—it is in the field of surgery that it does most for humanity; and it is in this capacity that it is considered of sufficient value to be placed in the same rank with anesthesia, antiseptics and other great medical discoveries.

Practical and Humorous Experiences in Photography

Part III. Dryplates, Roll-Films and Film-Packs

A. H. BEARDSLEY



DESPITE all assertions to the contrary, the photographic dryplate has several marked advantages over roll-films. The greatest is that virtually all plate-cameras are equipped with a ground-glass on which the lens reproduces the *exact* image that it will transmit to the plate. Reflecting-cameras, by means of a mirror, reproduce the image right side up; but, at times, this image is not as faithful to fact as the ground-glass in an ordinary plate-camera which receives the image *direct* from the lens. Regardless of the merits or demerits of the two types of cameras, the important fact to remember is that both enable the camerist to focus and compose his picture with a thoroughness not to be approached by cameras that use roll-films and must be focused by scale. Most plate and reflecting-cameras can now be used with film-packs by the addition of a film-pack adapter which slips in and out of the camera like a plate-holder. Some reflecting-cameras take roll-films regularly or may be equipped to do so by means of a cartridge roll-holder which is inserted in the back of the camera in the same manner as a

film-pack adapter. Needless to say, ground-glass focusing may be done as well with film-packs as with plates, in cameras equipped to receive both interchangeably.

Another exclusive advantage of dryplates is that they may be obtained in a great variety of speeds and color-sensitiveness. Moreover, photographs in natural color may be made only on plates; that is, as far as the average camerist is concerned. There are slow, medium, fast, non-halation, orthochromatic, panchromatic, process, lantern-slide, and natural color plates in such profusion that the amateur derives almost as much pleasure from trying to select the right plate as he does from the actual work in hand. Moreover, if he experiments long enough, he will accumulate a large supply of window-glass which may be sold to building-contractors for little or nothing.

Another striking feature about the use of plates is that they must be placed in light-tight plateholders, each equipped with protecting slides. Obviously, these slides must be removed before the plate can receive the image produced by the lens. Nevertheless, many camerists—including myself—have spent years trying to obtain a good



FLIGHT BY ROCKWELL FIELD AVIATORS

W. E. AVERRETT

picture *without* drawing the slide. My initial experiment was at my first wedding-anniversary. At the time, I owned a modest roll-film camera which I did not consider at all suited to this important occasion. Through the courtesy of a photographic dealer I obtained a 5 x 7 plate-camera and three double plateholders filled with the best plates that the store afforded. The romance of this important event made me particularly eager to get a good likeness of all those friends who had been present on the memorable evening a year ago. In view of the fact that I had no experience with flashlight-photography, I determined to make my pictures before sundown. As soon as all my guests arrived, I marshaled them on the piazza, set up my camera, focused it carefully and made six exposures in rapid succession. The next day I returned the camera to my dealer-friend and asked him to develop the plates at his earliest opportunity. That evening I hurried to the store to obtain the plates. The dealer met me with a quizzical look on his face. I attributed

this at once to his amusement at my romantic interest in the pictures.

"Well, are those plates good?" I asked hopefully.

"The plates are fine," he replied. "But what did you do with the pictures on them?" he added with a peculiar smile that I did not like.

"Do with them? What do you think I would do with them?" I countered with asperity.

"I don't know, I just thought I would ask; there are no pictures on the plates!"

When I finally regained control of myself and my dealer-friend dared to approach within speaking distance, the horrible truth dawned upon me. Every exposure that I made was with the slide locked firmly in place! No wonder the plates were fine; but without any pictures on them. Again I had to go through the harrowing experience of trying to explain something to my friends that could not be explained without admitting a photographic blunder that is never excusable.

Another good point about dryplates is that it



MIDNIGHT-SUN, ETAH, NORTH GREENLAND

DONALD B. MACMILLAN

is not necessary to make six or twelve exposures before being able to develop. If you wish to make one picture and then to develop it at once, you can do so without sacrificing five or eleven exposures as you would have to do in the case of roll-film. Of course, there are methods to use one exposure of a roll-film without sacrificing the rest; but a darkroom is necessary usually, and, often, time will not permit the camerist to prepare the roll to be run again. Several times I have cut one or more exposures from a twelve-exposure roll-film, refastened the loose end of the film to the black paper and wound the numbers on the paper past the red-window until the number corresponding to the beginning of the refastened film appeared. However, it required time to do this properly; and if the camerist wishes to rush his negative of an accident or a fire to the daily paper he must, as a rule, sacrifice any unused exposures that may remain on the film. This is a distinct advantage if you happen to obtain a bad negative because you can hustle right out and make another picture before anyone sees you do it or knows that your first picture was a failure. I have done this very thing myself with great success.

There are other good points about dryplates; but I have mentioned the most important.

Without a doubt the modern roll-film is most popular among amateurs and many professionals. Its outstanding features are portability and the absence of breakage which is always a possibility, although not a certainty, with dryplates. Owing to the paper protective covering, they are virtually equal to non-halation plates and their orthochromatic emulsion is claimed to be equal to that of the best orthochromatic dryplates. Although, up to the present time, no permanent means has been devised whereby a roll-film may be focused on the ground-glass—excepting a few models of reflecting-cameras—camerists who have a good eye for distance, are able to focus by scale with considerable accuracy. “The daylight-loading” feature of roll-film is a great convenience, although dryplates may be handled in daylight by the use of a changing-bag. When it comes to the storage of negatives, the roll-film has undisputed supremacy. For every dozen dryplates, nearly one hundred film-negatives may be filed away safely and conveniently. In the darkroom a roll-film is more bother than a dryplate; and when it becomes slippery from long

immersion in the various solutions, it is apt to cause momentary lapses from polite language on the part of the perspiring camerist. However, the developing-tank places dryplates, roll-films and film-packs on an equal footing as far as developing is concerned. Enough roll-films to make one hundred exposures may be inserted, exposed and removed in succession from the camera more conveniently than one hundred dryplates, with but two in each plateholder. Moreover, the exposed roll-films may be handled in daylight; but exposed dryplates must be re-packed in their original boxes and this must be done in a darkroom or other safe place. On an afternoon-stroll, five ten-exposures 3A roll-film cartridges may be carried in one coat-pocket. Needless to say, fifty plates of the same size would not fit the ordinary coat-pocket. There is and can be no question but that the roll-film is best for the average amateur.

For no reason whatever, my mind goes back several years to the time when I was trying to master the art of telling the emulsion from the glass- or celluloid-side of a plate or film. One "friend" suggested that by moistening the tip of my finger and pressing it firmly on the surface of the plate or film I could tell easily because the emulsion-side of the plate or film would stick to my finger. I tried it, and virtually every print showed the impress of my finger in the sky, across some one's face or in some corner of particular importance. Several of my friends asked me if I was studying the Bertillon system of finger-print records. Finally, I learned to tell the emulsion-side by the sense of touch, without moistening my finger.

Virtually, the same features of portability and absence of breakage belong to the film-pack with the added important advantage of ground-glass focusing. Twelve exposures are obtainable with each film-pack; but it is likewise possible to make one picture and develop it without exposing the other eleven. In short, a good film-pack gives the user the combined features of dryplates and roll-films with virtually none of their drawbacks. The new Portrait and Commercial Film

made by the Eastman Kodak Company furnishes conclusive proof that the film-pack idea may now be applied to serious portrait and commercial photography. Of course, dryplates still offer a greater variety of emulsions and the ability to photograph in natural color; but it is only a question of time when films will be made to meet every photographic requirement. In the darkroom, film-packs are the very limit of "pure cussedness," since they combine the slipperiness of the roll-film with the agility of an eel. However, the developing-tank again comes to the rescue. In my opinion, the film-pack will eventually offer more practical advantages than either dryplates or roll-film. The ability to focus on a ground-glass is a feature that cannot be valued too highly, absence of breakage is vitally important and portability is of inestimable convenience—these three features may be found to-day in every good film-pack. The next step will be the manufacture of emulsions suited to all requirements and lastly the production of a film-pack that will make snapshot and other pictures in natural colors.

Without going into the matter at greater length, it seems to me that dryplates are suited to the painstaking amateur and to those of a scientific turn of mind; that roll-films serve the average amateur to the best advantage; and that film-packs offer advantages to be had in no other way for amateurs and professionals alike who desire to focus accurately, avoid breakage and wish to carry a supply of unexposed film. Needless to say, all three—dryplates, roll-films and film-packs—have staunch supporters who use one to the exclusion of the other two; but I believe that I have summed up the present situation as impartially as possible. Photographic progress has been so remarkable in the last quarter century, that another like period of time may find us using a method to make pictures undreamed of to-day. In the meantime, we have three very effective means to portray whatever inborn pictorial ability we may possess beneath our rough exterior.

(To be continued)



Photographs as Evidence

LA VERNE T. RYDER



THE value of photographs as a means to bring the scenes, surroundings and conditions that existed at the time of a crime, to the direct attention of a jury, seems to have been overlooked in many cases by the lawyer and the photographer. I believe that this is due to two reasons: first, the lack—on the lawyer's part—of knowledge of the value of photographs as evidence; and, second, to the lawyer's inability to obtain the services of a photographer who really understands how to photograph so that his prints may be admitted as evidence. I have made a careful study of this branch of photographic work for ten years and I will endeavor to explain some of the details of the requirements to make a photograph of legal value in a case. I have had my photographs introduced as evidence in many kinds of cases covering accident, damage, attempt to defraud, larceny and murder. I will give a few cases to show how very helpful and important photographs proved to be in establishing certain legal points.

There are some things with regard to the camera which will be understood by the photographer, but not by the lawyer. For this reason, I have made it a practice to have a "get-together" meeting, with the photographer and the lawyer as the interested co-workers. At such a meeting, both can come to an understanding as to what is necessary to make a photograph of value, and what questions can be used to ensure the photographs being admitted to the court-proceedings; or, in some cases, what questions can be used in the cross-examination to cause the "other side's" photographs to be disqualified.

There are, I find, eleven important points to remember with regard to using the camera which, in my opinion, are absolutely necessary. Although these are by no means all that are necessary to bear in mind, they will cover automatically, all other questions that may be brought up in the court. By following closely the points that I will try to give, the photographer may be very sure—in fact positively certain—that nothing can or will be brought out in the cross-examination which will cause the court to rule against his photographs.

NOTHING OF IMPORTANCE CAN BE CHANGED IN THE SCENE.—That is, the negatives should be made as soon as possible, so that everything at the scene of the crime may remain exactly as it was at the time. If, however, considerable time

must—for some reason—elapse before the negatives can be made, the photographer must be able to swear that nothing which has any bearing on the case has been changed. This is the reason that I have made a practice to keep a camera with plates and accessories that I may need—including flash-pan and powder, fifty-foot tape and compass—all packed in carrying-cases, ready for immediate use, either day or night.

THE ANGLE OF VIEW OF THE LENS USED MUST BE VIRTUALLY THE SAME AS THAT OF THE EYE.—It is very important that the lens should include about the same angle as the eye, for either an increased or decreased angle will tend to change the relation of objects shown in the picture. Now, the average angle of the human eye is thirty-five degrees so that for a 5 x 7 plate one will need a lens of eleven-inches focal length,—this will give thirty-five to thirty-six degrees; on a 6½ x 8½ plate a thirteen-inch lens will give one thirty-five to thirty-six degrees and on an 8 x 10 plate, a sixteen-inch lens will give thirty-five to thirty-six degrees. Here, let me say that I have found the 8 x 10 print, linen-mounted, to be the best for all-around court-work, as it is large enough to bring out fine detail clearly and is not too large to be handled easily.

CAMERA MUST BE LEVEL.—It is absolutely necessary that the camera be level, as a slight tilt will give vertical lines as not vertical and in some cases, will cause one's photographs to be of no value, whatever. Consequently, I say "use a level." I have in mind a case which was an excellent example to prove my point that I shall mention later.

CAMERA-BACK VERTICAL.—Every photographer is familiar with the leaning-effect that is produced by pointing the camera either up or down; and he knows that this same effect can be produced by too free a use of the swing-back; so that to show a view or an object as it really is, one must have the plate exactly vertical. Then if, for example, a chimney is leaning slightly, it will appear and should be shown as leaning in the photograph.

CAMERA ABOUT ON THE LEVEL OF YOUR EYE.—In nearly all things that we see, a change of effect can be noticed if one raises or lowers the viewpoint; and, in some cases it is very important to be able to swear that the photograph is what a person would see at a certain place. For this reason it is important to have the lens of the camera on a level with one's eye when the exposure is made to give the true perspective.



QUINCE-BLOSSOM

ALICE F. FOSTER

THE TIME AT WHICH THE PICTURE WAS MADE.—The exact hour and minute when an exposure was made is not absolutely necessary, as I have found that to say that a negative was made between the time of one and one fifteen P.M. is definite enough. In most cases, as small an allowance as possible should be made to cover slight variations of time in watches or clocks.

COLOR-SENSITIVE PLATE NECESSARY.—It is well understood that the plate commonly called an "ordinary" one, sees only the blacks and whites in a subject at their true value and it registers all other colors in tones that are, many times, exactly opposite to that which they should be. For example, red is shown as nearly black, and blue is white. This fact will give an entirely different idea of a scene than the one wanted; but this difficulty can be overcome by the use of

panchromatic or orthochromatic plates and ray-filters. The use of these plates is familiar to most photographers but for the benefit of those who have not used them detailed information regarding them may be obtained from the plate-manufacturers.

MAKING AND FINISHING DONE BY ONE PERSON.—This is important in that it saves calling more than one person as witness to the photographs at time of trial.

EXACT LOCATION OF CAMERA.—In locating the camera definitely as to where it stood at the time of making the exposure, be sure to make all measurements from fixed objects and also to note carefully the direction in which the camera was facing. For example, a good description of location would read something like this: "Camera stood six feet west of the west edge of the

concrete-walk on the west side of Main Street and fifty-two feet seven inches south of the south edge of the concrete-walk on the south side of State street. Camera was pointed a little east of northeast, facing across the intersection of State and Main Streets in the town of ——— County of ——— and State of ———. In all of my measurements, I am allowing a possible error of one or two inches." This is clear, and I think that from this description of location a stranger could locate exactly where the camera stood.

THERE MUST BE NO RETOUCHING ON NEGATIVE OR PRINTS.—It is easily understood why no retouching can be done, as the prints must be true photographic reproductions of what they are intended to show.

THE PRINTS MUST BE SWORN TO ON THE STAND BY THE PHOTOGRAPHER WHO MADE THEM.—In some cases, his deposition can be used, although it is much better to have him there in person.

Photographs can be used in nearly all cases that come up for trial, viz.: accident, damage, attempt to defraud, larceny and murder. For example—a case of accident. At about ten o'clock P.M. on a road from a famous "wet" town, a motorcyclist collided with an automobile; result, the driver of motorcycle was killed. The automobile-driver called me out at once; and before anything was moved, we made flashlights to prove that the automobile was on the right-hand side of the road—where it belonged—therefore the motorcyclist must have been on the left side to run directly into the front of the automobile. At the trial, further evidence brought out the fact that the motorcyclist was partly intoxicated; and, with his photographs to back up his statements, the automobile-driver freed himself of a large damage-claim.

Damage-suits are common and usually well adapted to the court-use of photographs. I had prints in a case where payment was withheld for a silo, the claim being that the silo was crooked, cracked, and a source of danger to an adjoining barn. Prints from negatives made with the lens facing directly north, west, south and east with camera level and swing-back straight, showed that the silo was straight but the barn crooked! A telephoto-lens proved that cracks near the top of the silo did no particular harm and these facts brought in a judgment of the full amount due the contractor with no deduction for any damages.

Insurance-companies, in particular, are subject to attempts to defraud by arson. I had a case where a house insured to the limit, burned under very suspicious circumstances. I made

photographs that showed four distinct fires with no connection between them. Old, broken furniture was placed in the house,—the good furniture was in a shed at the rear; and in one room I photographed two glass-gallon jugs with a few ounces of kerosene in each. These prints were so convincing to the jury that the person who had the fire is now serving time at the state-penitentiary.

I had an interesting case of larceny where two windows of a house were broken in an attempt to release the window-catches. A man was arrested as he was leaving the house, after the people had heard the windows broken, but had seen no one near them. The windows were broken by the use of a brick, and photographs showed brick-dust and particles around the break in the glass—they also showed the dust-particles around one of the suspect's pockets. The man is now doing time for attempted burglary.

Murder-cases offer unlimited opportunities for the use of photographs, as in these cases all points relative to the case are sifted to the finest possible degree and the photographer has a good chance to show what he can do. I had a case where at a farm-house near a town a young man was shot and killed and an accident claimed. The interested persons asserted that the young man drove up in a machine with several others and stopped to talk with his friends at the farm—they were all Italians. While his friends talked, he got out of the machine and went into the house. As he was coming back from the house, one of the men who stood beside the machine fired a revolver which he was holding behind him and accidentally shot and killed the young man who was coming from the house. Their main witness claimed to be standing at the corner of the house where he saw it all happen. A photograph from the place where he claimed to be standing proved that he could see *nothing* on account of a row of lilac bushes between him and the road! A photograph from across a small field supported one of the claims of a witness for the state that he was not too far away to see—as he asserted that he did—that it was not an accidental shooting. The person who did the shooting is now doing time for manslaughter.

I could give case after case where photographs have showed themselves to be of practical value to prove claims and to bring actual scenes to the jury. In all cases, photographs are worth many times their cost. Photographs as evidence are worthy of careful study on the part of the lawyer and the photographer. By careful study and consideration each can add to his reputation as an expert in his chosen line; and, in addition, each can add a few dollars to his bank-account.



EDITORIAL



Another Photo-Era Innovation

IT is a way of the world that the introduction of a novelty that has the force of permanent utility or charm, generally displaces something that has held the attention of the public for a long time. In sources of amusement this is particularly true. One needs only to note the stereoscope, for example, which, with its collection of pictures, was a virtually indispensable feature in the household of every well-regulated family, about four decades ago. It began gradually to lose its hold with the advent of amateur photography and the optical lantern, largely because the screen-picture could be enjoyed by a larger number of persons at the same time. Its doom was sealed, however, when the phonograph and the opaque projector made their appearance. Attempts were made, several years ago, to revive the interest in stereoscopic pictures leading to the practice of stereoscopic photography, and with fairly good results. Of course, the pursuit received a rude interruption from the European War; but with specially attractive and simplified apparatus, this beautiful and fascinating art that presents a scene with a realism peculiarly its own, is destined to enjoy a revival in gratifying proportions. Convenient, modern stereo-cameras of standard makes are now on the market, as well as all needed accessories including simplified self-transfusing printing-frames.

It was, therefore, with much delight that the Editor observed the supreme success of a stereograph in the February Beginners' Competition. Appreciating the value of a rare opportunity, he proceeded to publish the stereograph as a regular halftone reproduction, and in the exact original size, $3 \times 6\frac{1}{2}$ inches, so that it could be enjoyed in the manner of an ordinary stereograph. To accomplish this, it is only necessary to cut the reproduction from the magazine, paste it carefully upon a stout card—ensuring a perfectly flat surface—and view it in a regulation hand-stereoscope or a revolving magazine-cabinet, whichever is available. If the appliance be of the right kind, in proper condition, the picture correctly adjusted and the beholder's vision normal, the result will be one perfectly blended picture with every detail showing in bold relief. An improved reproduction could undoubtedly

have been produced in the form of a specially prepared insert on stock having a glossy or enameled surface; but the present purpose is to show what can be done in the ordinary way on our regular coated stock, favoring the reproduction in no way, except to present it with dimensions corresponding to those of the original print, which is a standard stereograph leaving a separation of three and one-eighth inches. We believe that this attempt, in the manner presented in the current issue, is distinctly an innovation, and with suitable advance in this fascinating pursuit, PHOTO-ERA hopes to give stereography—if a new and succinct term may be coined—a permanent place in its pages.

Cinematograph or Kinematograph

THE much-debated question as to whether English terminology should include "cinematograph" or "kinematograph" and its corresponding derivatives—a question that was decided long ago in favor of the latter expression—has been revived in an English photographic journal. The arguments of the two disputants are published elsewhere in this issue. The champion of "cinematograph" made out a very poor case, but neither he nor his adversary made note of the circumstance that there is no letter k in the French alphabet, which would have enabled Lumière to recognize the Greek origin of the term that he applied to his invention. The nearest approach would have been "quinematograph"; but he chose "cinematograph." Instead of adopting the word in this form, such recognized English authorities as the Concise Oxford Dictionary and Cassell's Cyclopaedia of Photography, very sensibly adopted the Greek form—Kinematograph. Nor do we find that any standard English dictionary spells words derived from the Greek, and with k as the initial letter, with a c, but with a k; and, inversely, all words derived from the Latin and beginning with the letter c, are spelled accordingly, and not with a k. Thus we have kinetoscope, kaleidoscope, kinemacolor (an English invention), kallitope and kilogram, to fortify the recognition of Greek as the source; and camera, color, earbon, calcium and cyclorama, of the Latin source; yet the popular term, kodak, is neither Greek nor Latin, but American.



ADVANCED COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.

Prizes

First Prize: Value \$10.00.

Second Prize: Value \$5.00.

Third Prize: Value \$2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, **but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.** Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.*

4. *Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print exactly for what competition it is intended.*

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with double thicknesses of **stiff** corrugated board, not the flexible kind—or with thin wood-vener. Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—Still-Life Competition Closed February 28, 1919

First Prize: James V. Dunham.

Second Prize: Samuel P. Ward.

Third Prize: G. H. Seelig.

Honorable Mention: Robert W. Baird, Ethel Dismukes, Alexander DuBois, Mrs. Wm. Durrant, W. E. Fowler, Bertran F. Hawley, E. J. Koester, H. J. Mahlenbrock, Alexander Murray, Louis R. Murray, Robert P. Nute, Maude Paget, Dr. Charles B. Piper, W. C. Sawyer, H. J. Shipton, Sgt. P. A. Sims, Kenneth D. Smith, James Thomson.

Subjects for Competition—1919

"Rainy-Day Pictures." Closes April 30.

"Miscellaneous." Closes May 31.

"The Spirit of Spring." Closes June 30.

"Landscapes with Figures." Closes July 31.

"Shore-Scenes." Closes August 31.

"Outdoor-Genres." Closes September 30.

"Architectural Subjects." Closes October 31.

"Domestic Pets." Closes November 30.

"Indoor-Genres." Closes December 31.

1920

"The Spirit of Christmas." Closes January 31.

"Still-Life." Closes February 28.

"The Spirit of Winter." Closes March 31.



Photo-Era Prize-Cup

In deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize (\$10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.



Non-Receipt of Photo-Era

It should be unnecessary to remind subscribers of PHOTO-ERA that its publisher is doing his very best to overcome conditions brought on by the war. Nevertheless, there are some who have held us to task for the non-receipt of PHOTO-ERA. Subscribers who fail to receive their copies—*after liberal allowance for mail-congestion*—should write us and we will see to it that a duplicate copy is mailed.



FRUIT

JAMES V. DUNHAM

FIRST PRIZE—STILL-LIFE

The Weakest Link

THE veteran pictorial photographer, George Sutcliffe, points out in a recent number of *The Amateur Photographer* that ever since photography began, inventors have been busy removing the weakest links; so that to-day, a beginner starts with a chain of operations, every one of which has been tested. Yet they are not all equally strong even now; and each of us in his practice has some one link which is weaker than the rest, and may let him down. With one it may be the darkroom-lamp, the screen of which is safe only when the utmost precautions are taken to keep light from the plates. This is very commonly the weak link; because the importance of a real "safe-light" is not appreciated as it deserves to be, and many workers seem to be satisfied with a piece of ruby glass, or even with a layer of red varnish applied to an electric light, neither of which is more than a very imperfect makeshift. Fogged negatives are often submitted to us, which point clearly to the darkroom-lamp as the cause of the trouble. Some of these, especially when the film has been greatly underexposed, have a curious reversal in the least exposed parts, where a metallic-looking positive image is visible. This is almost always due to development by an unsafe light. The shutter may be the weakest link with other workers—and we know of one case where the water-supply deserved that title. The cold-water pipe ran for a few

yards close to a hot-water pipe, with the result that water which had been standing in the pipe became dangerously warm. The lesson for each of us is to discover the weakest link, and remove or strengthen it.

Plateholders and Dampness

THE evil effects of dampness on the ordinary type of plateholder are perhaps not always sufficiently recognized. There is no more certain way to warp the thin wood, from which the shutters of these slides are made, than by dampness, followed by rapid drying, and directly this happens the plateholder ceases to be lightproof. It is not possible to suggest a home-remedy for a plateholder with warped slides; the only effective one is to return the plateholder to the makers for the fitting of entirely new slides. Great care should be taken to prevent such plateholders from being stored in anything like a damp atmosphere. We met a worker recently who had left an ordinary double mahogany book-form plateholder for two or three days in a rather damp darkroom, with the result that when the slide was next required the slides were almost too stiff to pull out fully. The plateholder in question was placed near a stove in order to get it dry quickly, with the result that the whole warped to such an extent that it was not possible to insert it in the camera with anything like a proper fit, and, in fact, the warping of the plateholder was so bad that light was admitted at the



READY FOR THE COACH

SAMUEL P. WARD

SECOND PRIZE — STILL-LIFE

corners, completely spoiling the plates. This may be an extreme case; but it is given as a warning what to expect, especially with modern plateholders, which are probably made of mahogany less well-seasoned than was the case with the apparatus of a score of years ago, which would stand a great deal of careless treatment without being any the worse. If a plateholder has got wet, or is suspected of being damp, it will be found a good plan to dry it very slowly in a fairly warm room, as no ill effect will then be likely to result. If, after being dried the slides still run stiffly, the best way to ease them is by lubricating with a soft black lead-pencil. Plateholders with vulcanite slides give very little trouble in this respect, provided that care is taken to avoid bending the slides unduly. While on the subject, a word may be added on the popular metal plateholders so much in use. These plateholders are generally very well made and will stand a lot of rough usage, but it is not wise to try them too far. The design leaves very little room for clearance between the slide and the film of the plate, hence care must be taken not to bend the slides, for, though this may not be sufficiently bad to prevent inserting the slide into its groove, a very little will be enough to abrade or scratch the surface of the plate. We have more than once heard of trouble arising from this cause. These plateholders are also a danger when the dead-black paint on the inside becomes worn off. There are photographers who assume that this is a matter of very little moment, but we are old-fashioned enough to believe in having everything inside the camera and plateholders as dead black as possible.—*The British Journal*.

Lens-Mounts

THERE is one point to which British opticians might give attention when designing new anastigmats for after-the-war trade, and that is to provide each instrument with a deep hood. The shallow mounts in which some of our best anastigmats are sold are quite inadequate for one of their primary purposes, *i.e.*, that of cutting off the brilliant light falling upon the front surface of the glass. No matter how perfect the lens itself may be, such is fatal to the making of a clear, bright negative. We have only to fix a temporary shade to the lens to cut off this light in order to realize what a drawback a shallow hood really is. One of the best anastigmats that we have ever used shows this to a great degree. The front glass of the instrument is virtually flush with the front of the lens-mount; and, when windows or other strong illumination are at right angles to the camera, there is a marked veil even upon the image as seen on the focusing-screen. Obviously, good negatives cannot be expected in such circumstances unless the lens is hooded. In the case of another old-fashioned instrument set well back in its mount a hood was never required, and the negatives were as bright as could be wished. Those who use lenses in "sunk-mounts," unless there is separate screening, as in many reflex-cameras, can doubtless furnish abundant evidence in this direction, and for them a portable lens-hood that can be quickly attached and removed should be regarded as an indispensable item of equipment even for ordinary work. The shallow mount was designed in the first place to



INDOOR-SPORTS

G. H. SEELIG

THIRD PRIZE — STILL-LIFE

fulfil the demands for lightness and portability; but for these advantages much has to be sacrificed: for one thing, the glasses of the lens itself are not protected against accidental damage as was the case with the older-fashioned instruments set well back into their mounts. It is to the maker's advantage that his lens should give its best performance without undue trouble. However, through an operator overlooking the need of screening, a certain instrument, while capable of the very highest work, is judged inferior to one to which it may be in every way equal except in the matter of its mounting.—*The British Journal*.

Lens-Angle and View-Finder

THOSE who do much hand-camera work will not be long in finding out that the view-finder is, on the whole, the most unsatisfactory item of their equipment. The best pattern is undoubtedly the wire-frame, fitted with cross-lines and a back sight, enabling the instrument to be used at eye-level. One point, however, that is apt to be overlooked by workers is that a change of lens often has the effect of entirely upsetting the most carefully adjusted view-finder. The other day we met a press photographer who had failed to obtain a series of negatives at a sports-meeting owing to the fact that the lens on the camera had been changed at the last moment for one of a different focus, and including a much narrower angle. The finder worked very well in conjunction with the original lens, but was, of course, inaccurate with the newer one. It is important when changing lenses as above—when the instrument is in a focusing-mount and a direct vision-finder is in use—to make a rapid test as to what is included by the lens and what is indicated by the finder. For this purpose one may fix up four pieces of black cardboard to include a

rectangle of the same scale as the plate in use upon a whitewashed wall. The camera is then set up about a couple of yards away and the black cards seen in the four corners of the screen; a glance at the finder will at once show whether approximately the same result has taken place. As a general rule the finder will be found to include far too much, and may be modified to suit the lens by painting out all surplus with a little Brunswick black, or in the case of a wire-frame finder another couple of wires may be temporarily added. Thus, if accuracy is obtained in the relation between these two important items in his equipment at such a short distance, the worker will have no fear about including longer distances. In the case of a box-form finder a similar comparison may be made.—*The British Journal*.

Why Prints are Not Returned

PHOTO-ERA has a large collection of prints that are waiting to be returned to their owners. The reasons for this sad state of affairs are as follows:

First, absence of name and address on the prints of sender.

Second, failure of senders to provide any or sufficient postage for their return.

Third, failure to indicate why they were sent, or, rather, no advice has been received by PHOTO-ERA.

Fourth, prints that receive Honorable Mention remain the property of PHOTO-ERA, according to the rules which are stated plainly in every issue, together with conditions under which they may be returned to senders.

If this meets the eye of those who are in the dark regarding the fate of their prints, will they kindly communicate with the Publisher, and they shall be enlightened promptly.



SUBJECT FOR NEXT COMPETITION ADVANCED WORKERS



EARLY SPRING

P. BOETEL

Advanced Competition—The Spirit of Spring Closes June 30, 1919

THERE is something about springtime beauty and freshness that thrills us anew each year. No matter what mental or physical pain we may have had to bear, the sunshine and the twittering birds act as a sovereign panacea, and from the heartbeat of re-awakened Nature we gain the necessary strength to "carry on." To many, Dame Nature is both physician and comforter, and the camerist has the inestimable privilege to bring a ray of happiness to those who are far beyond the reach of his voice. A song is sung; a speech is finished; and the face of a loved one fades from the mind; but a picture—that lives forever!

Spring is a time of sunshine, flowers and youth, and these should predominate in every pictorial expression of the Spirit of Spring. No matter what the individual camerist's experience may have been during the winter-months, he should approach this competition with all the life and brightness that he can muster. If mental or physical wounds make it impossible for him

to enter into the spirit that should dominate this competition, it were better not to enter at all. Heartless as it is, the old adage, "Laugh, and the world laughs with you; weep, and you weep alone," is true to human nature. This is the time for smiles, for happiness and the joy of newborn love—these are the attributes of the Spirit of Spring that each picture should include in bounteous measure.

The delicate pinkness and fragrance of apple or cherry-tree blossoms constitute a subject that is at once alluring and difficult to photograph. Whether it is an entire tree or but a small blossom-covered branch, it presents an admirable technical and artistic problem to the really ambitious camerist. Many times, a hillside, on whose slope an orchard is in full bloom, offers a change of subject—particularly, if a fittingly placed bank of cumulus clouds tops the hill. Unfortunately photography is still unable to reproduce *all* the shimmering atmospheric softness that accompanies Spring-time beauty in field or orchard.

Lakes, ponds and streams have always had a peculiar fascination for me in the early spring. From the

time that the first frog-chorus begins its twilight-concerts, there is much pictorial material to be found about the shores of all inland bodies of water. Clumps of reeds, cat-tails and pussy-willows offer many possibilities as subjects or backgrounds for Springtime-studies. Flooded marsh-lands, checkered with playing lights and shadows caused by clouds moving across them, may be made into suitable subjects for this competition. However, the camerist must be a good technician as well as a sensitive pictorialist to attempt subjects which require wise selection and artistic treatment of a very high order.

Needless to say, the advent of spring has its effect on birds and animals. A newly arrived pair of robins engaged in deciding upon the location of their nest, is a subject of great interest and value to the nature-photographer and to other camerists as well. In fact all manner of appropriate subjects may be found by a careful study of the habits and lives of our feathered or furry friends of the great out-of-doors. The animal-life on a farm should not be overlooked by those camerists who are fortunate enough to live near one or on one, for an up-to-date farm is a very busy place in the spring and pictorial possibilities are legion.

Although the mind turns naturally to the fields and woods in thinking of spring, it should be remembered that urban communities, as well, have their Springtime joys. The bright, warm sunshine attracts the children to the city-playgrounds. Weary mothers with fretful babies seek relief from the crowded tenements in the recreation-centers, and that harbinger of spring—the hurdy-gurdy man—is abroad again. Genre-studies of city-life, during the early spring-days, may just as truly breathe the Spirit of Spring as pictures made in the open country. The rejuvenation of amusement-parks is a perennial sign of approaching summer. Again, at yacht-clubs, boats are being scraped, painted and made ready for summer-cruising and racing-regattas. Athletic fields are being rolled and re-marked; and, in fact, there is life and bustle on every side which fairly demands pictorial perpetuation for the enjoyment of all.

There are many opportunities for suitable Springtime pictures in and about the home. Especially should those camerists who occupy single houses and who have gardens, make the most of their surroundings. In the suburbs of every large city, there are many homes that are literally surrounded by beautiful lawns, flower-beds and gardens—all of which have great pictorial value in the hands of the skilled worker. Many times, through tact and courtesy, it is possible for the "gardenless" pictorialist to obtain permission to make pictures in the garden of his more fortunate neighbor. Usually, the owner of a beautiful garden is immensely pleased to have pictures made of his garden; but unless there is a hearty invitation to enter such a garden, it is just as well not to force the issue because no camerist can do his best if he feels that his very presence is unwelcome.

The Spirit of Spring knows no limitations. The simple act of a poor tenement-dweller placing a small potted plant on the fire-escape that it may thrive in the bright sunshine, is evidence enough that in her heart the Spirit of Spring has found a welcome. Although we turn to nature naturally, we must remember that there are thousands in our great cities to whom spring means just as much as to the hundreds living in the country. However, both cannot enjoy exactly the same manifestations. It seems to me that the well-equipped worker—wherever he may be—should attempt to portray the Spirit of Spring as he finds it in his locality. Let the city-dweller give us his inter-

pretation and the man from the country his version. By so doing this competition should have a deep human and pictorial interest.

Unless a picture expresses the Spirit of Spring spontaneously, it will find small favor with the judges. The indescribable exhilaration experienced on a beautiful spring day cannot be expressed by posing a subject; but by catching a subject at the moment when it best expresses our own thrill of delight. This competition is the exact antithesis of our Still-Life Competition! Although all camerists must creep before they can walk, photographically, it should not be assumed that because a beautiful cherry-tree in full bloom typifies the Spirit of Spring, it must be photographed year after year. Give the matter enough serious thought to get out of the beaten path.

We have every reason to believe that the Spirit of Spring Competition of 1919 will be even more successful than the one of last year. Our competition of last year was a distinct success; but at its conclusion it seemed as if the supply of available subjects had hardly been touched. We are confident that amateur and professional workers will realize that this competition is eminently worth careful thought and preparation. Let every entrant remember that his efforts are always appreciated, even if no prize or Honorable Mention is awarded; and that if he does win the favor of the judges, his work will give pleasure to several thousand fellow-workers and readers of PHOTO-ERA. Make the effort—it is worth it!

A. H. B.

Copy, Duplicate, Replica

A *copy* is as nearly like the original as the copyist has power to make it; a *duplicate* is exactly like the original; a carbon *copy* of a typewritten document must be a *duplicate*; we may have an inaccurate *copy*, but never an inaccurate *duplicate*. A *facsimile* is like the original in appearance; a *duplicate* is the same as the original in substance and effect, a *facsimile* of the Declaration of Independence is not a *duplicate*. A *facsimile* of a key might be quite useless; a *duplicate* will open the lock. An *imitation* is always thought of as inferior to the original; as, an *imitation* of Milton. A *replica* is a *copy* of a work of art by the maker of the original. A *duplicate* is really an original, containing the same provisions and signed by the same persons, so that it may have in all respects the same force and effect. A *copy* is a *reproduction* of an original, or even of a reproduction of an original, but not necessarily of the same size, nor retaining all the good or bad qualities of the object copied. Thus, there are good, bad and indifferent *copies* of the Venus de Milo, in bronze, marble and alabaster, the original being of marble. There are also *copies* of photographs, ranging in quality according to the skill of the copyist, and may be printed in any size or in any medium. A *reproduction* is the same as a *copy*, and may be executed in the form of a photograph, photogravure or halftone.

W. A. F.



An Elevating Exhibit

MISS GUSHINGTON—"I saw your picture, 'Destroyers at Sea,' at the exhibition, Mr. Softly, and it was just heavenly."

MR. SOFTLY—"Heavenly, eh? Maybe that is why it was 'skyped.'"



BEGINNERS' COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.

Prizes

First Prize: Value, \$2.50.

Second Prize: Value, \$1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is "*Miscellaneous*"; but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than *two* years' practical camera-activity, and whose work submitted here, is without any practical help from friend or professional expert. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from $2\frac{1}{2} \times 3\frac{1}{4}$ to and including $3\frac{1}{2} \times 5\frac{1}{2}$ inches, and enlargements up to and including 8×10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data. Criticism on request.*

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives after he shall have received official recognition.

7. Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. ***Be sure to state on the back of every print for what contest it is intended.***

8. Competitors are requested not to send prints whose mounts exceed about 11×14 inches, unless they are packed with double thicknesses of *stiff* corrugated board—not the flexible kind, or with thin wood-veneer. Large packages may be sent by express.

Awards—Beginners' Competition

Closed February 28, 1919

First Prize: Bernhard Muller.

Second Prize: George S. Nalle.

Honorable Mention: Joseph B. Morse, Jr., J. Homer Smith.

The All-Around Camera

EVERY season some beginner writes to me to ask what camera I would advise him to purchase for "all-around" photography. This is very much like asking a tailor to recommend a good "all-the-year-around" suit of clothes. The more one attempts to sift the pros and cons down to bed-rock, the more confused the beginner becomes. As a matter of fact, there is no "all-around" camera! There are many that will photograph all manner of subjects; but, to my best knowledge and belief, there never was and never will be *one* camera that will meet *every* photographic requirement. The beginner should remember that a camera to merit the title, "all-around camera," would have to make snapshot speed, time and bulb-exposures; it would have to do copying, enlarging and reducing; it would need to be adapted to portrait, landscape, marine, mountain, group and commercial photography; it must serve the needs of the beginner, professional, scientist, explorer, traveler and merchant; and, finally, it must be fitted with a remarkably versatile lens, shutter, swing-back, bellows-extension, rising-and-falling front, etc., to meet these varied demands; and, in addition, such a camera would need to be very strong, light in weight, compact and adapted to use dryplates, roll-films, and film-packs. Furthermore, there are still other important adjustments and details to be added to this long list to make an equipment *really* an "all-around" camera. What a bewilderingly diversified piece of apparatus that would be!

It must be apparent to the veriest tyro that an "all-around" camera is very much like a "universal" lens—both will photograph many things, but *not everything*. In consequence, it is vitally important to the beginner to make up his mind what branch of photography he expects to master during his first season and then to buy the camera that is best adapted to his requirements photographically and comes within his means. "How should I know what I expect to photograph?" the beginner might ask in perplexity. Very true; but on second thought he will realize that he does not intend to attempt high-speed pictures, autochromes, telephoto-views, photomicrographic experiments and general scientific photographic research. Furthermore, as he gives the matter thought, he will continue to eliminate until he arrives at the conclusion that he wishes to photograph friends, home-scenes, and perhaps, take the camera on his vacation this summer. Arrived at this decision, the beginner will have no difficulty to obtain a suitable camera. Later on, when he has established himself firmly on his photographic feet, he is in a position to know to advantage what better equipment he needs, if any.

It sounds rather thrilling to tell your friends that your new roadster can make seventy miles an hour; but if you never intended to drive at such a speed, why pay for that which you do not use? With regard to cameras,



APPLE-BLOSSOMS

Original size
Ready for the Stereoscope

BERNHARD MULLER

FIRST PRIZE — BEGINNERS' COMPETITION

you may cause your friends to envy you the new reflecting-camera with high-speed anastigmat lens, but if you cannot use it advantageously and do not intend to devote the necessary time to mastering it, why pay for such an equipment? It is far better to begin with a box-camera and work up to a reflecting-camera with high-speed lens than to be obliged to fall back suddenly and ignominiously.

Probably, the *nearest* approach to an "all-around" camera is one of the popular folding roll-film outfits fitted with an anastigmat lens and high-speed shutter. With such a camera, the beginner is well equipped to photograph virtually every subject that he may desire about his home, among his friends or when away on a vacation. Obviously, such a camera is not intended to take the place of other special types adapted to the particular work in hand. To-day, there is a camera made for every branch of photography; and, as in other lines of human endeavor, the beginner will do well to find and use the particular equipment that specialists agree is best adapted to the work to be done. Specialization in any one branch of photography is to be advised; but not at the outset. It is best for the beginner to sound himself out and to make sure which branch of the art and science of photography he would enjoy the most.

Another *near* approach to the "all-around" camera is the plate-camera equipped with anastigmat lens, high-speed shutter, swing-back, double or triple bellows-extension, rising-and-falling front, reversible or revolving-back and other adjustments. Such a camera would permit the beginner to attempt much serious work artistically and technically; but its bulk and the necessity to use a tripod would eliminate it at once as a constant photographic companion.

Again, we have the reflecting-camera that can do what neither of the above types can do; and, yet, it

falls short of being an "all-around" camera. Every type of camera mentioned is an ideal outfit in its own sphere of usefulness; and, because it does not yield results under conditions which it is not made to meet, the beginner should not condemn it. In fact, the fault rests with the beginner and not with the camera. For, if the tyro makes the mistake to purchase an elaborate outfit that is not adapted either to himself or to the work to be done, he has only himself to blame for an unfortunate and very unsatisfactory state of photographic affairs.

Since there is really no "all-around" camera in actual fact—although there are several near approaches to such an equipment—the beginner will do well to try to master photography little by little. As he progresses, he should obtain the best outfit possible for the particular branch of photography he is endeavoring to master at the time. By so doing he will not only obtain a more thorough grasp of photography but he will have the invaluable opportunity to learn how to manipulate cameras of all standard types. There are many times when it is most convenient for the beginner to know how to handle a reflecting-camera, even if he never expects to own one. Again, he may wish to do some special work, although not enough to warrant the purchase of a new outfit; but if he knows how to use a view-camera, he may borrow one and thus save himself considerable expense. In short, the more any beginner knows about photography, the more pleasure he derives from it and the more rapid is his progress.

Even at the risk of repetition, I feel that it is necessary to remind the beginner that an expensive camera does not guarantee good pictures, neither does a moderate-priced outfit portend photographic failure. If every beginner will use his equipment—whatever it may be—carefully and with common sense, he will eliminate ninety per cent of his photographic troubles. It



A TEXAS BROOK IN MID-WINTER

GEORGE S. NALLE

appears to be a human tendency on the part of the average beginner to trust more to an expensive equipment than he would to a moderate-priced camera. As a matter of fact, the more an outfit costs the more "photographic brains" it requires to produce good pictures. Every beginner with the season of 1919 before him should look to his photographic knowledge first, then to his camera.

A. H. B.

The Limit in Photographing with the Microscope

ACCORDING to an editorial note in *The Amateur Photographer* Mr. J. E. Barnard, president of the Royal Microscopical Society, expounded to a crowded audience at the Camera Club some of the secrets of photomicrography: and his thoughtful address, which was not overlaid with technique, must have given to many ordinary photographers a new insight into the difficulties of their brethren who use the microscope. He made it plain that the limiting principle in photomicrography is neither the skill of the operator nor even the capacity of the objective, but the physical fact that light has a definite wave-length, and that it is not possible to resolve an object which is finer in detail than the wave-length of the light which is used to illuminate it. The ordinary photographer, as Mr. Barnard pointed out, is concerned, generally speaking, to get a correct rendering so that his picture represents what the eye sees. The photomicrographer, on the other hand, is not concerned at all about the exact representation of colors so far as their luminosity or visual value goes; he is concerned only with getting contrast enough to show the contiguous details; and contrast-screens extending over the whole range of the spectrum are often used for the very purpose of getting the exact opposite of the natural representation. The ordinary photographer, again, has at his command a certain power of photographing the depth of an object;

but this is denied to the photomicrographer; and the better photomicrographer he is, the less likely will he be to attempt to photograph more than one plane at one time. Mr. Barnard did not agree that the easiest way to do photomicrography is necessarily with the most elementary tools. If the work is to be done with precision it needs more elaborate apparatus. The great thing to aim at is to avoid vibration, by having the apparatus on the girder principle, struttled and braced together in all directions, so that if one part vibrates the other parts vibrate with it.

Focusing Sharply

IN focusing originals, such as paintings, in which the absence of definite outlines presents a difficulty, most photographers make use of a small printed card placed against the surface of the original in order to provide a workable test-object. But perhaps it is not so generally recognized that different types of lens require different treatment in order to obtain the best results. As a rule, rapid rectilinears and other lenses possessing greater or less roundness of field give the best average sharpness when the test-object is placed so that its image falls about midway between the margin and center of the field. With most anastigmats it is best to obtain the greatest sharpness in the center, and the margins will then frequently be sharper in the negative than they appeared on the screen. With all types of lenses great assistance can be given by a judicious use of the swing-back, both vertical and side movements being employed as needed. This is particularly the case when using a portrait-lens at its full aperture; a swing of the back will allow of the same degree of good focus over the plate as could be obtained by a smaller stop. The method must not be abused, particularly when a short-focus lens is being used, otherwise the size of hand and feet in the sitting figure will be unpleasantly exaggerated.—*The British Journal*.



THE CRUCIBLE

A MONTHLY DIGEST OF PHOTO-TECHNICAL FACTS

Edited by A. H. BEARDSLEY



Purple Tones on Bromide

THE formula given below will give an excellent purple tone on any make of bromide paper, which is equal if not better than any gold-toned printing-out-paper or self-toning paper. Thorough washing after each operation is required.

Bleach in

Potass. ferricyanide.....	140 grs.
Ammonium bromide.....	180 grs.
Water to make.....	10 ozs.

Wash and re-develop in:—

A.—Hydroquinone.....	170 grs.
Potass. metabisulphite.....	90 grs.
Potass. bromide.....	20 grs.
Water to.....	10 ozs.
B.—Ammonium carbonate.....	1 oz.
Water.....	10 ozs.

Equal parts of A and B.

E. MANLEY, in *The British Journal*.

Fastest Fixing

AMONG other suggestions which we made recently to a correspondent, who sent us a batch of stained paper-negatives, was that of using a hypo-bath of the maximum fixing-speed. Where, as in the case of such negatives, the process of fixing cannot be seen by the eye it is more than important to arrange matters so as to obtain complete fixation. As was ascertained some years ago by Mr. Welborne Piper in the course of a lengthy series of experiments, a fixing-bath of forty per cent strength, that is to say, eight ounces dissolved in water to make 20 ounces of solution, fixes more rapidly than any which is weaker or stronger. Although these experiments were made with a particular emulsion, our own experience with plates of many different makes has shown us that for practical purposes the strength of bath above-mentioned may be taken as that which fixes in the shortest time. Obviously, more hypo is required to make up a bath of this strength, but, setting aside loss from sheer carelessness—such as splashing the solution about—there is no reason to believe that a bath of this strength is any less economical to use than one containing, say, only four to six ounces in a pint of water. We have yet to find a plate with which a bath of this maximum strength cannot be used. In the case of papers it may easily happen that frilling or blisters may arise from the use of a fixing-bath of this strength, although in our experience such effects have been very rare.—*The British Journal*.

Triple Condensers

AN interesting item in *The Amateur Photographer* calls attention to the advantages of using triple condensers. These condensers are composed of three lenses instead of two and this construction allows the individual glasses to be thinner and in consequence reduces the risk of breakage from sudden changes of temperature; moreover, the illuminant can be nearer to the condensor. In this way a larger angle of the light proceeding from it is included and more of the

available light is utilized on the screen. The results of using a triple condensor are not "better" in the sense that there is any perceptible difference between them and enlargements made with a double one, or even without any condensor at all; but the exposure required is reduced, in some cases, very considerably. For the projection of slides a properly adjusted triple condensor should give a much brighter picture than could be got with a double one, the same illuminant being used for each.

Commercial Telephotographs

IT is a very common and not wholly unjustified criticism of the telephoto-lens, with regard to its practical usefulness, that the subject which displays its utility has to be sought with patience; that the results are more often demonstrative of what the lens will achieve than an example of its power to meet demands upon it. In one application, at any rate, this is not the case, and the exception may usefully be drawn to the notice of commercial photographers, by few of whom perhaps a telephoto-lens is regarded as a useful item of their equipment. But in photographing small objects natural size, or nearly natural size, a telephoto is of special usefulness, for the reason that it compels a very considerable distance between lens and camera, and therefore ensures in the photograph the quality of "good drawing," which is an essential in such work. Five or six feet is none too great a distance in such cases, but a thirty-inch or a thirty-six-inch lens of the ordinary type is a bulky instrument, even if it is available. A telephoto of the adjustable-focus type, such as the Adon, yields very satisfactory results and adds only a few ounces to the weight of the kit.

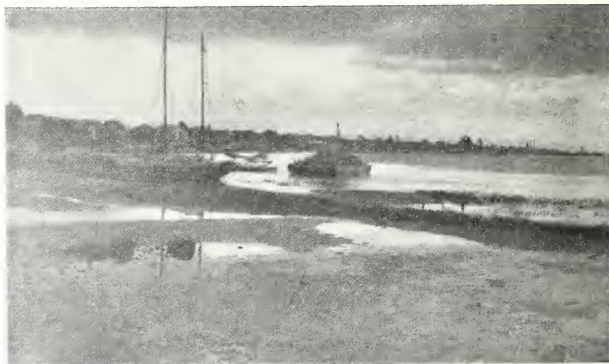
The British Journal.

Another X-ray Peril

EDITORIALLY *The Amateur Photographer* calls attention to dangers that the X-ray worker should guard against. The X-ray worker should be careful with regard to any metal-objects he may have about his person, such as watches, rings, or even coins in the pocket. If the tube is not sufficiently protected—and few are—stray radiation, falling upon such articles, may cause them to be the sources of secondary rays, which bring about painful effects in the tissues. This is specially the case with silver and nickel-articles; a sovereign, on the other hand, if one should ever again get into our pockets, would probably give rise to no effects, the secondary radiation from gold being very feeble. At the February meeting of the Roentgen Society a medical man who has been the victim of this kind of action, told how he had worn a wrist-watch under his rubber-glove while doing X-ray work; and, as a result of the secondary rays from the silver, an ulcer had formed on his wrist, corresponding in shape and position to the dial. He had also suffered from X-ray burns on the legs which he stated were due to wearing nickel sock-suspenders. Evidently the risk of mischief along this unguarded line is considerable to those whose occupations bring them frequently within reach of these radiations.



OUR CONTRIBUTING CRITICS



YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us a six-month subscription to PHOTO-ERA MAGAZINE.

THERE are too many distracting objects in this picture, such as the two vases on the table and the Indian rug—if it is that—which add nothing to the value of the picture and only serve to make it appear very jumbled up. The lower half of the print is almost solid black, except for the harsh white stripes in the rug; and the model, therefore, seems stuck in mid-air, or else her limbs have been amputated! According to the title, the parrot should be the subject to hold our attention; but it is slighted, and made to play a minor part. The figure is certainly posed in a most awkward position. What has become of the lady's neck? It appears as though she had none. Also, the position of the hands could be improved greatly. The lighting on the face is too harsh, and in fact the flesh-tones throughout the picture are very poor—all too glaring.

C. B. WEED.

LET us begin by trimming five-eighths of an inch from the bottom of the picture, which will give it a better balance in the parts of light and dark. The lighting also is somewhat too harsh to render the skin at its best. A softer grade of paper would have improved the tone of the picture very much. The sitter is tactfully posed and appears not in the least conscious of the presence of a camera, which is highly commendable. However, I am quite sure that she is looking at her fingers, instead of at the bird, which is evidently the main point of interest. The articles on the table are incongruous and detract attention from the central point of interest.

DEWEY A. HOWARD.

THE left shoulder is somewhat exaggerated, due to improper placing of head. Right arm appears too small for body—poor lighting and probably short focal length of lens. The bottle and cup on table are entirely too prominent. Entire picture is too harsh, should have used softer paper. Background does not co-ordinate with subject, due to lower part being too dark. Could have been bettered by using softer paper. I would suggest that sitter's head be raised higher; but still maintain that questioning attitude; right hand should be placed in lap and subdued in lighting; left elbow a little further out and hand inward so that would be more perspective between the arm and wrist. Table and accessories should be moved further back in picture and out of focus—bottle and cup in lower key than head, and bust of sitter so that there would be proper balance. In conclusion, I would use a longer focus lens, softer paper and spot out on print or etch on plate the highlights on settee in lower left-hand corner.

MAX KEROFF.

THE print "Polly, Do You Love Me?" shows a bit of indoor-genre poorly handled. With such material as is here represented and proper handling a good picture could be had easily. By multiplying the distance between the camera and the sitter by two and by moving the camera a little to the left and about eighteen inches higher a better effect may be had. Then have the lady sit in a more upright position, lower the left hand about five inches, remove the water-glass and bottle, increase the exposure by as much more, and not overdevelop as was done in this case. Under such conditions a more pleasing picture could be had. As it is now, the eye is attracted by the water-glass and bottle, the pose is extremely



THE PICTURE CRITICIZED THIS MONTH

awkward and unpleasing. The lower half of the print shows no detail and forms a dividing line across the print. An increase of exposure would prevent this and by proper developing the highlights would not show the paper as white.

ORMISON O. HILBORN.

A SPLENDID model poorly portrayed. Head is out of proportion to rest of body. A good face, awkwardly placed, poorly (flat) lighted. The hand resting on table has a missbapen appearance. Bird is not separated from body of lady, it giving appearance of a straight line bisecting shoulder. As a whole it is too contrasty, no detail in dress—one-third of print—background too sharp, being too near subject. Articles on table, together with resting arm and inclined head, draw the eye too insistently away from the subject of the title "Polly." The print is the unfortunate result of what is not generally observed by many on the groundglass; in short, the perspective is bad; the negative underexposed, overdeveloped and the subject improperly posed.

LOUIS R. MURRAY.

THE pose and pleasing effect of the picture is delightful. The technical details, as well as the composition and focus, are fairly well done. The picture space is a bit crowded, and the undue proportion of dark in

the lower part of the picture, which gives a draped or bust effect, could have been avoided by less carbonate and a higher dilution in the developer. Feeding the parrot with the right hand, while holding it on the outstretched forefinger of the left, would have been a more natural and interesting pose. White lilacs substituted for the water-bottle and large goblet would have enhanced the artistic value of the picture. There is no excuse for the wrinkled background, which does not belong to the room or the picture.

FRANK LABAU HILLER.

THIS picture is rather confusing in its parts. The parrot, which should here have received the most attention, has been slighted. The figure is rather awkward in pose and the hands were badly treated. Well could the objects on the table be eliminated; and also the highlights in the drapery to the left. The wrinkles in the background are annoying and could have been avoided by keeping the cloth moving during the exposure. And where is the rest of the figure? Owing to the intense blackness, there appears to be nothing at all from the waist down! Here a reflector would have helped. On the other hand, the subject is good and an excellent picture can be made if more care is taken in the arrangement of the models, and the unnecessary accessories removed.

RICHARD WEBBER, JR.



OUR ILLUSTRATIONS

WILFRED A. FRENCH



THE leading illustrations in the present issue of PHOTO-ERA are representative examples of the Sixth Pittsburgh Salon. Of these, "Cedars, Sedate," by C. W. Christiansen, embellishes the front-cover. Mr. Christiansen will be remembered as the author of the remarkably interesting and instructive serial on pictorial photography that appeared in the August, September and October, 1918, issues of this magazine. This stately composition, as well as the frontpiece, by H. A. Latimer, and the succeeding six pictures, accompany the admirable article on the Sixth Pittsburgh Salon by Messrs. Reiter and Rypinski. Any words of mine in criticism of these engrossing pictorial subjects would be superfluous. Data: "Cedars, Sedate," front-cover and page 228; Grand Canyon; June, 8 A.M.; bright light; 4 x 5 Graflex; 11½-inch Spencer lens; F/8; 8-time color-screen; 1/50 second; 4 x 5 Orthonon; Rodinal; carbon enlargement.

"On Lake Como"; frontpiece; June; 2 to 3 P.M.; fair light; 8 x 16 cm.; Gaumont Sterco Panoram, fitted with Krauss-Zeiss of 90 mm. focal length; F/16; 1/50 second; used the panoram adjustment, and "shooting" lengthwise of the camera (vertically) getting virtually a wide-angle exposure; Eastman Film-pack; Metol-Hydro; Bromide enlargement (gum-print shown at Pittsburgh).

Portrait of a Young Girl; page 225; 8 x 10 view-camera; 14-inch Verito; F/4; two 1000 watt Nitrogen bulbs; 7 seconds; Orthonon; Pyro; gum-bromide.

Mae Murray; page 226; January, 4 P.M.; weak light; 3¼ x 4¼ Saunderson; 7-inch Verito; F/5.6; 5 seconds; Polychrome plate; Azol; Artura Carbon Black, Grade E.

Water-Scene; page 227; January, 4 P.M.; 4 x 5 Ipsi; 9-inch Verito; F/5.6; 1/20 second; Seed Non-Hal. Ortho; pyro; Bromide (Paget, about four years old, and considered spoiled).

"Knitters in the Sun—Concarneau"; page 229; September; 3¼ x 4¼ Goerz-Anschütz; 3¼-inch Celor Eastman Film-Pack; M. Q.; Bromoil.

In contrast to the preceding series of pictures—with the exception of Mr. Latimer's well-defined view on Lake Como—are the four somewhat literal though none the less interesting examples of Western scenery, pages 232 to 236. They are all direct contact prints and serve the camerist's primary purpose to show the country exactly as it is—without any attempt towards artistic interpretation. There is no doubt that Mr. Van Winkle could produce prints from the original negatives marked by artistic individuality based on treatment and printing-medium corresponding to his temperament or personality. Be that as it may, the present illustrations are marked by an undeniable artistic sense and an adequate knowledge of pictorial composition. Data:

"Castle Rock," Santa Barbara, Cal.; page 232; 9 A.M.; 3A Kodak; Voigtlander & Son Collinear, series III; F/16; 3-time ray-filter; 1/5 second; Cramer Inst. pyro-acetone; print, Graffo Soft.

"Cloud-Lake, Lake Tahoe"; page 233; 9 A.M.; sky-shade filter; pyro powders; print on Cyko Studio Soft. Other data the same.

"Kennedy Meadows"; California; page 235; 3 P.M. Other data same as in preceding picture.

"Tres Hermanas," page 236; 10 A.M.; stop, F/64. Other data same as in preceding picture.

Mr. Harrison claims no special merit for his small illustrations, pages 238-240, except with respect to the style of architecture represented. Nevertheless, students who are likely to follow this line of photography, may be interested in the photographic methods of Mr. Harrison, who is a professional architect of high repute. Data: "Gothic Detail"; page 238; fair light; 3A Graflex; Series II Velostigmat; 7-inch focus; F/11; 1/35 second. "Romanesque Details"; page 239; sun; 3A Graflex; Bis-Telar telephoto lens; 15¼-inch focus; F/16; 1/25 second. "Byzantine Sketches"; page 239; good light; vest-pocket camera; Vinco lens; F/6.3; 1/50 second. "Romanesque Façade"; page 240; sun; 3A Premo; Series II Velostigmat; 7-inch focus; F/6.3; 1/100 second.

Those who have visited Cologne will remember the sturdy men with leathern aprons who perform feats of strength in unloading beer-casks and depositing them in the cellars of hotels or restaurants. They like to read the news of the day, but generally with the aid of a nearby mug of beer. Frequent draughts of the dark, heavy beverage make them a little slow to grasp a crisis; but "Johann," here, accustomed for a period of four years to hear of the Allies' discomfiture, and that his friends are only deliberating how and when they shall enter Paris, suddenly learned that the great Hindenburg was executing a Rhineward movement, owing to the unexpected arrival of an army from far-off America. He was mystified; he was at a loss to understand. One day Johann picked up his daily paper and read with consternation the great blow struck by American arms at Château-Thierry and that his countrymen were being forced back. It was then that he exclaimed: "Donnerwetter! Those Americans!!" Johann was too much absorbed to notice that a fellow-citizen, the photographer Ellender, had caught him scratching his head and obtained a character-study of rare power and interest. Data are lacking except that an American-made dryplate was used to make this identical exposure, page 243. This circumstance, too, was unknown to Johann.

The remarkable picture showing an army of aviators in flight against a beautiful sky, page 245, is due to the skill of W. E. Averett, of the Kearny Photo-Service, of San Diego, Cal. On the day of the flight, there were over 212 machines in the air, of which about 120 are shown in the picture. It must have been a magnificent and thrilling spectacle. Data: 5 x 7 Press Graflex; 12-inch Goerz Dagor; at F/16; 1/90 second; Eastman Portrait-Film; clouds printed in on an 11 x 14 enlargement, which was copied and reduced to 8 x 10 on Eastman Commercial Film; contact-print on Azo E Hard, Double Weight. Prints, at 50 cents each, may be procured from James B. Herrick, Kinematographer, P. O. Box 1105, San Diego, Cal.

The effect of a celestial phenomenon, as shown on page 246, is the result of a simple camera-trick by Donald B. MacMillan, the arctic explorer, who made eight successive exposures on one plate. The scene is at Etah, North Greenland; July 28, 1917; the midnight sun, 70° 20' North Latitude; each exposure, 1/75 second, at intervals of 20 minutes each, without change of plate or camera.

With return of spring, PHOTO-ERA takes delight in showing an attractive flower-study by Mrs. Alice F.

Foster. It was made at the time when this issue of the magazine reaches many subscribers, viz. May 9, but several years ago. The spray fills the picture space adequately and gracefully. The color-values throughout represent truthful perfection, and nothing more can be said. Data: May 9, 1914; 11 A.M.; dull light outside; 5 x 7 Century Camera; 8 1/4-inch Goerz lens; F/16; Xcel Sector Shutter; 1 minute in the house; 1 minute; Medium Iso; 8-time Ingento color-filter; contact-print on Azo.

Advanced Workers' Competition

THE average beholder of the cleverly executed fruit-pie, by James V. Dunham, may wonder that a halftone reproduction in black should possess a color-suggestion of the objects themselves, whereas the original photographic print was of a warm black tone! The bloom of the grapes is remarkable in its fidelity to nature, the color values in the entire composition being the result of intelligently directed technical skill. The arrangement of the fruits is admirable in its oval design, compact, without elaboration. It may be that it occupies the picture-space with no room to spare, but this oversight is pardonable in view of the accomplishment of an eminently creditable result. Data: Made in Manitoba, Canada, August, 1918; Cycle Graphic, fitted with Kodak Zeiss Anastigmat; stop, F/22; 10 minutes; good light; by window; 5 x 7 Panortho Central; 3-time ray filter; part of negative enlarged on Cyko Enlarging.

Mr. Ward's picture is reminiscent of post-chaise days, the component parts evidently belonging to some collection of eighteenth-century curios. The theme is well conceived and admirably carried out. An interesting feature of the composition is the old-fashioned lantern which is reflecting rather than emitting light. Data: February, 6 P.M.; artificial light; 4 x 5 Graphic; 8-inch Cooke lens; stop, F/16; 5 seconds; Standard Orthonon; Paramedophenol; 8 x 10 enlarged on Artura Carbon Black E with 9-inch Verito, at F/5.6, 5 seconds' exposure.

The title, "Indoor-Sports," was applied by the author in a facetious sense. Where is the connection? The mimic devotee lies prostrate before the heathen deity—in response to a caprice of the artist. "A Caprice" would not be an altogether inappropriate title, in the circumstances. The subject is unconventional and, probably, serves as a kind of diversion to the artist, whose speciality is landscapes. Data: 3 1/4 x 4 1/4 Ica Reflex; 7 1/2-inch Struss; at F/4, 3; Cramer D. C. Inst. Iso; enlarged on P. M. C. No. 3; M. Q.

Though introduced as a suggestion to participants in the June competition, Mr. Boetel's "Early Spring," page 256, may be of interest to camerists who lack experience in outdoor-work during the vernal season. For their benefit, the data of Mr. Boetel's picture are repeated: May, 3 P.M.; soft sunlight; 4 x 5 Cycle Graphic; 11-inch Protar; stop, F/22; K2 color-screen; 1 1/2 second; Wratten & Wainwright plate; pyro; 8 x 10 carbon enlargement, Italian green with Wollensak Verito soft-focus lens.

Beginners' Competition

A DUAL innovation in PHOTO-ERA competitions is the awarding of a prize to a stereoscopic picture (stereograph) and its publication, in these pages, as a regular halftone reproduction. This circumstance forms the subject of an editorial in this issue. The technical excellence of the picture is obvious, and the intended stereoscopic effect—obtained by removing the reproduction and examining it in a suitable stereoscope—

will be found to be highly satisfactory. Inasmuch as standard stereo-cameras of several excellent makes are on the market, it is hoped that the prize-winner's example will be emulated by many. Photographic practice offers nothing more fascinating and eminently gratifying than stereoscopic photography. The dual pictures (stereographs) will prove a source of delectable entertainment to old and young, and at all seasons of the year. Data: May, 1918, at 2.30 P.M.; bright light; Stereo. Hawkeye; symmetrical pair of R.R. lenses, of about 5-inch focus; stop, F/16; 1/25 second; Eastman film; Eastman tank with Eastman tank-developers; prints on Azo, Grade F Hard.

Mr. Nalle's Texan landscape, page 260, possesses good pictorial qualities. The tones are pleasing everywhere but in the large tree with its opaque blackness which, like a pall, presses down upon the pretty little fall, threatening to annihilate it. Indeed, this dark mass is the one, great obstacle to what might be a well-ordered and happy landscape. Data: December 29, 1918; dull cloudy; Auto Graflex; Wollensak lens; 5-inch focus; F/4.5; 1/10 second; Seed 30 plate; Kodolon-Hydrochinone; printed on Azo Hard; picture made from the side of an automobile stopped in mid-stream.

Our Contributing Critics

WITH exemplary good-nature, F. W. G. Moebus offers for the second time one of his pictures for the critical consideration of his many friends and well-wishers. He states that he hopes to continue to profit by the intelligent and courteous criticism contributed by PHOTO-ERA readers and is not afraid to present another marine subject for comment. No data.

A Sketch of Sadakichi Hartmann

TIME WAS, here in Boston, in the other century, when a very striking figure among us, hardly less so than that of Tagore, except that his costume was usually our own and only Japanese at soirées in his studio, or in that of some artist with a talent for "mixing" people—was Sadakichi Hartmann, poet, journalist, artist, critic and interpreter in general of things Japanese to the ever-culture-seeking Bostonian. Mr. Hartmann (or, as he is known by the pseudonym of Sidney Allan) bore, in his countenance and complexion, and in his jet-black hair, cut pompadour, in those days, picturesque marks of the grafting of Western upon Eastern stock. It was an impressive and engaging effect that resulted—not only of physical and external, but likewise of intellectual traits and æsthetic gifts. It is pleasant to know that Sadakichi is still living, and, as always, preaching his message of good-will between East and West, and in that field where certainly that mission is most needed and most thoroughly appreciated—on the Pacific Coast. The Listener has just received his postcard announcing his "Seven Lenten Talks, at Paul Elder's" (San Francisco) on Monday evenings in March and April. For the opening lecture, the theme is "Women as Depicted in Modern Literature," and he is careful to note on the program that it is St. Cucugunda's Day. On Monday, March 17 (St. Patrick's Day) he discoursed upon "Super-men I Have Met," on Monday, March 31 (St. Daniel's Day), "Confessions of a Journalist," and, after one preceding on "The Lure of Oriental Religions," the concluding "talk" is on "The Last Thirty Days of Christ"—being the reading of the lecturer's latest unpublished work. "Admission at the door one dollar." Plainly Sadakichi Hartmann is an institution in San Francisco.—*The Listener*.



ON THE GROUND-GLASS

WILFRED A. FRENCH



A Unique Arrangement of Allied Flags

WHILE a number of different arrangements of flags of the Allied nations have reached PHOTO-ERA, in each of which the French emblem has been given a prominent place, an arrangement has appeared the reason for which is difficult to explain. It is shown on the American Victory postage-stamp which was issued in March. In the center stands Columbia. At her right is the flag of Belgium, below which is that of Great Britain. At her left is the flag of Italy, and below is that of France. Incidentally, and as far as I know, the United States is the first of the Allied countries to issue a Victory postage-stamp in recognition of the great victory achieved by the Allies over the Central powers.

A Voice from the Wilderness

My dear Editor,—Despite that old saying—"Tall oaks from little acorns grow!"—which incidentally does not include *all* little acorns—I am reminded of the most recent photographic breathlet, which states frankly that it is "devoted to the art of picture taking." Whether the publisher is the author of that lively musical comedy "Take it from me!" has not yet come to light.

I wrote to a friend in the city where the magazinelet is published asking him to send me a copy, but he was unable to do so, declaring that nothing of the kind could be traced in that locality. Finally I obtained a copy from another source. After looking it over, I was convinced that it served a laudable purpose, for it contained the following testimonial—"I never knew the pleasure Photography afforded until I began reading your valuable magazine." C. I. D.

Assuming that this camera-user had just begun his hobby, and had seen no other photographic magazine, the following anecdote is not amiss: "On January 1, 1909—a frightfully cold day—I met a friend on the street, who greeted me with a barely audible 'Say, this is the coldest day of the year.'" And he was right!

C. W. K.

He Began His Career in Photo-Era

I HAVE had occasion in the past to refer in complimentary terms to the pleasing versatility of several of PHOTO-ERA contributors. One of them, in particular, began in 1917 as a very promising writer, supported by an adequate degree of technical skill and practical knowledge. Being ambitious and resourceful, he broadened his sphere of activity, so that to-day he is able to dispose of his literary product to eight or more standard periodicals, and in a way satisfactory to himself and his patrons. In his story printed in the March *Writer's Monthly*, published in Springfield, Massachusetts, Michael Gross—the subject of my sketch—reveals the secret of his success as follows:

"Although it may seem to verge a little on the side of boasting, the writer, merely to show his qualifications to write for the various magazines which he has named in the course of this article, might mention that he is a photographer by trade and, therefore, able to write knowingly for photographic magazines; he has been a salesman for eight years and knows salesmanship

well enough to write about it for salesmanship periodicals; six of these eight years have been spent in soliciting orders for printing and lithography, hence his qualification to write for magazines like *The Inland Printer*, *The National Lithographer*, etc. He has always been a student of direct-mail and other mediums of advertising and is, therefore, able to 'get away with it' in magazines like *Fame*, *Printers' Ink*, *Modern Methods*, *The Mailbag*, *Advertising-News*, and other similar publications."

I advise amateur photographers, who wonder how they can increase their revenue by means of the camera, to read the interesting and helpful article by Mr. Gross, in the above-mentioned magazine, which, by the way, is published for the benefit of all who write.

Following Instructions

"WHERE'S Tibbetts? He's left his prints in the tray and ought to be attending to them," were the remarks heard in the workroom of the Southgate Camera Club, a week before Christmas. Search was made for the new member, who had recently become independent of his photo-finisher, and was known to interpret everything literally. He was found on the upper floor taking a cold bath and rubbing himself with great care. "What *are* you doing, Tibbetts!" shouted the chairman of the print committee. Continuing to apply the flesh-brush vigorously, the camera-novice replied: "The directions say—'Wash thoroughly for twenty minutes in cold, running water; I'm nearly through.'"

Perpetuating War-Epigrams by Photography

A FEATURE of the great war has been the activity of the war-historian. To episodes innumerable have been added epigrammatic phrases altered at critical moments by naval and military commanders. Thus we have "We are ready now!" Commander Taussig's retort perpetuated by F. J. Mortimer's famous photograph, which was published in PHOTO-ERA, September, 1918. There are some persons who, for no apparent reason, would credit this phrase to Admiral Sims of the United States Navy. Fortunately, the moment that the American admiral heard of this movement, he declined the implied compliment and not only requested that the credit be given exclusively to Commander Taussig, but explained the origin of the expression.

Similarly, the epigram "La Fayette, we are here!" is attributed to General Pershing. According to the *Chicago Evening Post*, however, it is Colonel Stanton of General Pershing's staff who is the author of this expressive exclamation. It is hoped that some enterprising American photographer was not far away, at the time, and pictured this episode which marked the beginning of America's aid to France. If no camera-record exists of it, there is no reason why an appropriate scene cannot be arranged and photographed, preferably at La Fayette's tomb, in the cemetery of Picpus, Paris, or near his equestrian statue in the Court of the Louvre. If such an opportunity is allowed to slip away, surely some artist of the brush will create for posterity what might have been achieved by photography. Thus, it was a painter who perpetuated that historical event—the delivery of the German fleet.



PHOTOGRAPHIC THRIFT



Whoever sends us a letter that we consider of practical photo-saving value, will receive from us a three-month subscription to PHOTO-ERA MAGAZINE.

Practical Saving-Methods

EDITOR PHOTOGRAPHIC THRIFT:

It happens very often that many photographers when making enlargements do not have the exact size of paper at hand and they use the next size, which may be an 8 x 10 sheet for a $6\frac{1}{2} \times 8\frac{1}{2}$ enlargement. A sharp penknife or other cutting-instrument within easy reach of the easel would save paper that could be used for test-exposures, if, after focusing is done and the lens capped, the penknife is employed to remove the unnecessary and otherwise wasted paper, by guiding it down the border of the image with a ruler or other straight guide. The amount of paper saved may not be noticed at first; but a pencil and paper will soon satisfy the photographer that "every little bit counts." If, as stated above, an 8 x 10 sheet is used for a $6\frac{1}{2} \times 8\frac{1}{2}$ enlargement, two strips, $1\frac{1}{2} \times 8$ and $1\frac{1}{2} \times 10$ inches, respectively, or 27 square inches, are saved at a money-value of about two cents on each enlargement. Not much to be sure; but in time, as the work continues this saving makes itself apparent. When one is making small prints, say, about one hundred $2\frac{1}{4} \times 3\frac{1}{4}$, another method to save presents itself. This size of paper costs about fifteen cents per dozen. Why not buy the $3\frac{1}{2} \times 5\frac{1}{2}$ size for twenty cents; cut in the center so as to give two dozen sheets, size $2\frac{3}{4} \times 3\frac{1}{2}$, and save exactly five cents per doz.? On one hundred prints this would mean a saving of forty cents, allowing the four extra sheets for trial exposures or perhaps waste. This method to economy could be applied to other sizes.

WILLIAM MATTERN.



EDITOR PHOTO-ERA MAGAZINE:

I notice in your "photographic thrift" page that you offer a three-month subscription for any good practical photo-saving suggestion. Here is one that I am using myself at the present time, and I am certain it is practical. I have a Premo No. 9 camera, 4 x 5. I have been using film-packs most of the time; but when I wanted to do a little extra good work I used Standard Orthonon plates. Now, I had heard a great deal about the wonderful results that are being had with the Eastman Portrait-Film, but found that I could not get either film or film-sheaths the size to fit my camera, or plateholders. However, I was determined to use Portrait-Film, so I went to a tin-shop and had a tinner make me eight sheaths like those used in 5 x 7 cameras. It cost me fifty cents for the lot and it took the tinner about ten minutes to make all of them. I next bought a dozen 8 x 10 Portrait-Films, and taking them to my darkroom cut them to 4 x 5 size, getting four dozen for my size camera. Now, the one dozen 8 x 10 films cost me \$2.40 and as they made four dozen 4 x 5 films, I would get then one dozen of that size for sixty cents. Since film-packs cost ninety cents per

dozen and Standard Orthonon plates eighty cents, you see that I save right there. Then, to think of the excellent results that I get with the Portrait-Films. Nothing can beat them! I will never use anything else as long as the Portrait-Films are made. It is needless for me to say that I backed the film-sheaths. I used a flat-black metal-paint. However, before doing that I simply cut a black piece of paper the size of the sheath and put that in between the film and the sheath.

H. A. STAPLES.



EDITOR PHOTO-ERA MAGAZINE:

When paper is pinned to the enlarging-easel by thumb-tacks, there are always wide, white circles in the developed image that necessitate trimming one-half inch from two sides. If common, straight pins are used instead, no blemish will appear in the enlargement, except a small hole that can be left in the print without detriment to it. Considerable trouble is experienced with pins, by some, because of the weak shank and proneness to bend; but if phonograph-needles are used there will be neither the thumb-tack, nor the pin, nuisance. Phonograph-needles known as "soft-tone" give the least trouble and the best service. A thimble is handy to get the needles in quickly, without injury to the fingers. I never knew what to do with my spoiled prints until I thought of a file. Now, all spoiled prints are dried, cut to 3 x 5 size with the trimmer, and the blank-side used in the file as blank-cards upon which to write thrift-ideas.

FRANK KING.



EDITOR PHOTO-ERA MAGAZINE:

Often, when one wants to make only a few prints, developer may be saved by making up a small quantity—the smallest quantity that may be used satisfactorily for the work to be done. The best way I have found for doing this is to have the Sodas mixed and in solution, and the Metol (or substitute) and Hydroquinone mixed and in powdered form. The Soda solution is easily measured out in a graduate, and a measure may be made for the M-H mixture, or it may be weighed. Here is the formula used for Azo papers. For the Soda solution, take one and a half ounces of Sodium Carbonate and one ounce Sodium Sulphite, and dissolve in one pint of water. Use the dry salts and weigh by avoirdupois. Metol and Hydroquinone are mixed in proportion of one to four, and I usually mix one drachm of Metol with four drachms of Hydroquinone. To make eight ounces of developer: take one fluid ounce of the Soda solution, and one measure of the M-H mixture, or weigh out eleven grains. Seven ounces of water and a few drops of 10 per cent solution of Bromide of Potash are added and the developer is ready for use. Smaller or larger quantities may be made at will by dividing or increasing the amounts used. With a tray of suitable size, postcards may be developed satisfactorily in as small a quantity as two ounces of developer.

I. C. SEASE.



ANSWERS TO QUERIES



C. J. O.—A hypo-eliminator does not remove the necessity for thorough washing. There is no way that we know of to do away with washing even if a hypo-eliminator is used. It should be remembered that the products of the decomposition of hypo should be washed away just as thoroughly as the hypo itself. A dozen changes of water within one-half hour should prove to be ample washing for plates.

W. S. H.—To work successfully on the back of negatives requires considerable skill, judgment and natural aptitude. As a rule, the back of the negative is coated with a special varnish which dries with a matte or ground-glass surface which may be worked upon with a black lead-pencil or stumping-chalk. Sometimes a fine-grain translucent paper is fastened to the back of the negative and the "working up" is done on the paper. One of the best methods to apply the translucent paper to the plate is to place it between two sheets of moist blotting-paper until it is damp, but not wet. Next, place it flat on a piece of clean paper, then place the glass-side of the negative down on the translucent paper. Place a tiny edging of paste along the film-side of the negative. Turn over the edges of the translucent paper on to the sticky film-side of the negative, using a clean piece of paper to rub it down. The translucent paper should be stretched tightly in order to afford a satisfactory surface on which to work. Parts of the negative that are too transparent and print too darkly can be increased in density by applying black-lead or stumping-chalk. An ordinary black lead-pencil serves nicely for the purpose. Should it be desired to make any part of the negative more transparent—print darker—this may be done easily by applying Canada balsam and turpentine—one part of the former to two of the latter—with a sable-brush. If the ground-glass varnish method is used, the black-lead can be applied in the same manner. The parts that are to be rendered more transparent can be worked upon by scratching away the matte varnish wherever required.

H. S. Y.—The term "Winchester" is an old English liquid measure of 80 ounces. In fact, it is some centuries old, according to reliable authorities. In reading English photo-journals the term is frequently found in formulae; and whenever "Winchester" is written, it refers to 80 ounces of whatever fluid is under discussion.

J. H. O.—To remove developer stains from the hands use lemon-juice or citric acid. Silver-nitrate stains are more difficult to remove. Usually, a solution of four parts water, one part chloride of lime and two parts sodium sulphate applied with a tooth-brush will remove such stains. Pyro-stains are generally removed with a ten per cent solution of oxalic acid; but this should not be allowed to enter any cuts or abrasions on the hands. Amidol stains are usually removed with lemon-juice or citric acid. Nitric acid stains are the worst, as this acid corrodes the skin. A solution of potassium permanganate and a thorough rinse afterwards often proves effective.

H. S.—To prove that your shutter will stop motion and let more light pass than a shutter of another type requires careful planning and much technical skill. If, for example, you wish to prove

that your shutter is superior to a focal-plane shutter, you should make pictures of rapidly moving objects coming on, at right angles and passing on beyond the observer. In short, if your shutter is what you claim it to be, it will "stop motion" no matter from what direction or at what speed, within reason, the object passes. Moreover, many of these exposures should be made early or late in the day to prove that in addition to stopping rapid motion your shutter gives a full exposure under unfavorable light-conditions. A good plan would be to make simultaneously the same exposure with a focal plane shutter that you make with your shutter. Then, with the pictures of the two shutters side by side you would be in a position to note the superior features—if any—that were possessed by your own shutter. If you find by very careful examination that your shutter obtains results where the other one does not, you can begin to build up a series of examples to prove the superiority of your shutter. Be very careful to make no claims that cannot be proved beyond the shadow of a doubt. Be prepared with an answer for every possible question that may be asked. Do not forget the old saying, "The proof of the pudding is the eating thereof."

W. N. H.—Pyro is now being used very successfully for commercial tank-development. Many of the largest photo-finishers in the country use it exclusively. The best acid-proof paint to coat tanks with that we know is Probis, manufactured by Wolff & Dolan, 220 Post Street, San Francisco, Cal. This may be obtained from your dealer.

K. A. F.—The successful use of a soft-focus lens depends upon the individuality of the worker. There is no rule. Personally we prefer the Verito, although we have produced fine results with the Spencer and also the Struss lenses. The Spencer Lens Company, Buffalo, N. Y., will send you a descriptive list of their Port-Land lenses. We know of no soft-focus lens that is convertible; the idea does not appear to us to be feasible. The Wollensak Optical Company, Rochester, N. Y., would be only too glad to send you their complete list of Verito lenses. PHOTO-ERA has published in the last four or five years a number of practical and authoritative articles on how to produce soft effects by mechanical methods, including the use of cheese-cloth or chiffon, which, however, is not recommended because it destroys the planes of the pictures if used in certain cases.

T. A. O.—The development of double-coated plates is a matter of judgment and the result depends upon the use to which the resulting negative is to be put. For portrait results—a strong developer—for more harmonious results a weaker solution is preferable; but prolonged development is not advisable in hot weather.

B. A. J.—Aldis lens is made in several series F/4.5, F/6, F/7.7, F/5.6 and in "Duo" and "Trio" form, but none of these series are convertible. We advise you to procure a copy of the *British Journal Almanac* for 1919, as advertised in PHOTO-ERA. This will give you a complete descriptive list of the Aldis lens and all other English lenses as well as cameras, papers, etc. There is no other photographic book just like the *Almanac*. It is well worth the price.



EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions
and Conventions are solicited for publication



Herbert W. Gleason in Government Service

DURING a recent visit at our offices by Mr. Herbert W. Gleason, the well-known photographer, traveler and lecturer on western mountain-scenery and plant life, we were gratified to learn that he had received an appointment from the Department of the Interior as department-inspector of fifteen National Parks and Monuments situated in Arizona, California, Colorado, North Dakota, South Dakota, Oklahoma, Oregon and Washington. Under the direction of Secretary Lane of the Department of the Interior, Mr. Gleason is soon to leave on his tour of inspection, which is to include the determination of suitable ways and means to open up these magnificent national properties to the enjoyment of the public.

A Worthy Appeal Endorsed by Photo-Era

DEAR FELLOW-PHOTOGRAPHER:

The letter which follows has just been received:

CHAMBRE SYNDICALE FRANÇAISE DE LA PHOTOGRAPHIE
Paris, France,
7 February, 1919.

Dear Mr. MacDonald:

The great war in which America joined us in the defence of civilization has ended by the victory of righteousness. But a great many members of our profession of the North and East of France, occupied by the enemy, have been ruined, their photographic implements taken off, and their houses destroyed.

In a general meeting our "Chambre Syndicale" decided, on the 9th of last January, to help our unfortunate fellow-photographers and to start a subscription with the object of collecting money to this end.

May I trouble you in consideration of your well-known charitable feelings, and request you to promote, if possible, among our American fellow-photographers, a subscription, the proceeds of which would be a great assistance to our work.

Please accept my best thanks for all that you will be able to do.

With the hope that we shall soon meet again in Paris, I remain,

Yours faithfully,

L. VALLOIS,

President.

The majority of these men have been serving in the French army, only to find that everything that they left at home is wiped out—no studio, no apparatus, and frequently no family—nothing with which to resume a normal life.

If we Americans don't help them, there is no one who will—for there is no one else who can. British, Italians and French are equally impoverished—while we American photographers have made more money than ever before. Give something real, not just a little loose change as you would to a beggar, but generously as you would to a good old pal who had been hit—and hit terribly hard.

I know the men at the head of the society. They are careful, conservative and level-headed.

I will start the fund with five hundred dollars—you can send your cheques to me—made out to me, and I will forward the whole sum by American Express, and publish the list.

This is the first, last and only call. It is too worthy a cause to be begged for.

Cordially yours,

PIRIE MACDONALD.

Send cheques to 576 Fifth Avenue, New York City.

"Cinematograph" or "Kinematograph"

Editors of the British Journal.—It is gratifying to note that the *British Journal*, with its usual keen sense of the fitness of things, has never been misled into spelling the words "cinematograph" and cinematography" with a "k."

The first use of the word cinematograph was by our French allies (M. Bouly, in 1892, and M. Lumière, in 1895), and these, of course, spelled it with the much pleasanter-looking and more English "c." It was, in fact, the "kultured" Teuton who began to write motion-pictures with a "k."

Some etymological purists may object that the word cinematograph comes from two Greek derivations—*kinema*, motion, and *grapho*, to write. Well, what of that? There are many other English words, also formed from Greek roots and beginning with or containing "k," which no educated person ever dreams of spelling save with a "c." How ridiculous, for instance, the following sentences look, in which a few such words have been spelled in strict agreement with their origin! "The deakon suffers from kolic, due to watching komets and eklipses in the teleskope on the Oktagon. He has been ordered to a warmer klimate, to go in for kykling and akrobatics; but, above all, to keep out of the krypt and the kata-kombs, or, as a klimax, he may fall into a kataleptic state and need more kausitik treatment." Yet, either the foregoing "howlers," suggestive of a third-standard examination in a council-school or of so-called "reformed" spelling, are entirely correct, or else "kinematograph" must be wrong. One cannot have it both ways.

No reflection whatever is intended on any person, periodical or text-book, that has hitherto, perhaps thoughtlessly, used the "k" instead of the "c." But surely, in the light of some recent happenings, there is little excuse left for preferring an essentially Germanic orthography to one supported by the best British, French, and Latin precedents.

A. LOCKETT.

Editors of the British Journal.—I think that Mr. A. Lockett is wrong. Cinematograph was first a trade-name for Lumière's in 1891; bioscope an English name in 1894. Kinema was first used for an English patent in the 'sixties or 'seventies; since that time the English Patent Office classifies under "K." The oldest trade-journal also goes under the name "Kinematographic Journal." My English standard dictionary, 1902,

also says "K," and does not mention the Cino (which is pronounced sino, not kino).

The first kino consisted of a pack of cards, on which the successive movements of an object were illustrated by hand, when slowly released, as in the modern Mutoscope or Kinora, the kinematographic effect was produced.

The name is, therefore, typically English, and not of Germanic origin, as suggested; nor is Lockett, because it is written with "ck," and "ck" is looked upon as typically Germanic.

KINO.

It is a "cin"; but what can the French do when they have no letter k in their alphabet? Lumière thought probably less of the pronunciation than of the spelling of the word "Cinematograph," for in the former case he might have resorted to "Quinematograph;" but who would like the appearance of such a term? Clearly "Kino" has much the better of the argument. Besides, we are under the impression that a large part of the English photographic press has adopted "Kinematography" and its derivatives, including the abbreviated "Kinema"; for they probably know that, with a k in the French alphabet and being familiar with Greek, the scientific Lumière would never have adopted "Cinematograph."—EDITOR.

A Word from Professor Pyro

THE writer of the "Professor Pyro" articles is in receipt of a courteous letter from Terry Ramsaye, a staff-expert of "Kinograms," a news-reel, director of publicity for The Rivoli and The Rialto, the famous motion-picture theatres of New York, with regard to the seventh "Professor Pyro" talk—The Move to the Movies—which appeared in the April number of PHOTO-ERA.

In the last paragraph of that article, Professor Pyro says that motion-pictures which make all animated objects move about at exaggerated speed are made thirty to the second, instead of sixteen. This procedure, according to Mr. Ramsaye—who is a recognized authority on the subject—would have just the opposite effect to that indicated, and would make the picture appear slower than normal. If eight pictures were made to the second, instead of sixteen, the appearance of speed would be obtained, due to the fact that there would be greater gaps between each picture.

Professor Pyro is also mistaken when he says that to show boys jumping out of the water and onto a spring-board, the film is fed into the projection machine backwards. All films are run through the projection machine in exactly the same way. The "backwards" trick, as well as all similar "stunts" in motion-picture photography, is done in the camera itself at the time the pictures are made.

New Club-Rooms of Chicago Camera-Club

DURING March the Chicago Camera Club moved to its new quarters in the Northwestern University Building, Lake and Dearborn Streets, Chicago. The new club-rooms are larger and arranged to better advantage to show the many choice exhibits that have been obtained. On May 15 the Sixteenth Annual Exhibit will be held at the Art Institute. The granting of this privilege to the camera-club is a source of pride to the members. Particularly, since out of thirty-five applications but five could be granted space. The club intends to make every effort to surpass the high standard set last year.

Bertrand H. Wentworth's Photographs

THE collection of photographs by Bertrand H. Wentworth, professional photographer, of Gardiner, Maine, that has been exhibited in some of the larger Eastern cities during the past season, has created a deservedly favorable impression. The prints (11 x 14 and 16 x 20 enlargements) indicate a marked advance in Mr. Wentworth's abilities as a pictorialist, with special reference to composition, tone-values, direct methods of technique and a notable sense of beauty. Mr. Wentworth has adopted a sanely moderate degree of diffusion in his prints, which, from a commercial point of view, at least, is highly desirable. He is also to be commended for not making his selling-prices too low. The subjects are mostly along the coast of Maine, including the famous Island of Monhegan.

Our Much-Photographed President

ACCORDING to press-reports, two hundred and seventy photographers, members of the photographic section of the U.S. Signal Corps, are detailed to make motion-pictures and still pictures of President Wilson and his conferees of the American peace-commission. The first chapter of the President's absence in Europe resulted in three hundred original negatives of him being made by the army camera-men and sixteen prints from each, just to be on the safe side. When the President visited Italy and England, four hundred more negatives were produced, resulting in seventeen hundred prints, nine hundred enlargements and seven hundred postcards. Truly, our President appreciates the skill and alertness of American photographers and sees that they are kept busy.

An Appreciation

AUBURN, N.Y., 11 Morris Street,
March 18, 1919.

PHOTO-ERA,
367 Boylston St.,
Boston, U. S. A.

I have always taken a keen interest in all matters pertaining to the photographic art, and have found your magazine to be a wonderful help in my studies; but not being able to always find it at our local news-stand an enclosing money order of \$9.50 for a year's subscription and portfolio of Aurora Life-Studies, and print set No. 300, as per advertisement in your February issue.

Very sincerely yours,

FRED H. NICKASON.

Please Write Your Name Legibly

THE importance of writing one's name clearly, particularly in matters of business, is shown by the fact that several governmental departments require absolutely that the signature to any order, document, requisition or communication be *typewritten*. The necessity of this ruling is obvious.

PHOTO-ERA has among its files, awaiting attention, a number of letters, orders and photographs, many of the latter having been entered in several of our competitions. Unfortunately, the names of the senders are written so hurriedly, or with the intention to preserve a characteristic signature, as to be entirely illegible—except to the signers themselves.

Moral: be reasonable, when certain of your communications remain unanswered; or, to ensure attention, *typewrite your signature!*



LONDON LETTER

CARINE AND WILL CADBY



ALTHOUGH we are being told continually that business in this country is at present at a standstill, owing to the uncertain future conditions, both as regards labor and raw materials, there are, nevertheless, signs that, at least in the photographic trade, latent liveliness is beginning to be in evidence. It is rather like the children at their games, who loudly protest that play is impossible while so and so is in such a position, whereas all the time they are edging and manoeuvring into what they consider a better place for a start. Without disclosing trade-secrets, we may safely foretell very active and enterprising developments in the near future, provided, of course, we are not all absorbed and engulfed in a monster strike, which, as we write, still looms very dangerously ahead of us. In the matter of trade after the war, the Germans have to a certain extent come into the open (at least in regard to the international kinema-business) and it has been common knowledge, for some time, that a £1,250,000 (\$6,250,000) film-trust was organized under the auspices of the Deutsche Bank, late in the Autumn. But apart from this undertaking, several new and strongly capitalized concerns have now been founded. Existing film-companies are amalgamating, and in various directions concentrating their resources in order to present a united front against anticipated foreign competition, probably British and American. It appears that the kinema-business in Germany during the war was very profitable, and the big earnings that were made will henceforth be devoted to competition in foreign markets, at least—so we are told. But if other accounts that come to hand have any truth in them, one would think that these big profits would have to go to feeding the hungry people, at least, for the present.

Writing of the kinema reminds us to record what a hold it has at last taken on the populace of even this slowly moving country. As the soldiers are gradually being demobilized, and get back to their own villages, the fact is announced at the local kinema for a trifling fee. It is a quite primitive and simple arrangement. A darkened plate is scratched with the soldier's name and the date of his return to civil life, and shown on the screen. In this country the villages are still the home of the little businesses, and already our own village-kinema has recorded the return of several "small" men from the Forces, whose little undertakings have been closed down for several years. Inhabitants rejoice at their return, not only because they are glad to see them back, but because long-neglected repairs and renewals to house-property can again be contemplated.

Since last writing, a new weekly paper has appeared. It is called "The New Illustrated" and is the successor to "The War Illustrated," which has been running for four and a half years. "The New Illustrated," edited by J. A. Hammerton, is published at three pence and contains a fair number of short articles by well-known people, Lord Northcliffe and Emile Cammaerts contributing to the first copy. But the chief feature, and that which merits our attention as photographers, is the picture-section which is called "Our Times Illustrated." This is placed in the middle of the paper, and the idea is that it alone should be preserved with the ultimate purpose of binding and, as its name denotes, ensuring a pictorial history of the times, year by year. To this end special efforts have been made with

the illustrations, photogravure being employed for four pages. This we know would be no innovation in the States, as they have long had wonderful reproductions in the illustrated press; but here, and at the price, it is a distinct advance, and the photographic reproductions given are good, and to the student of our times well worth preserving.

Wellington and Ward, the well-known photographic plate and paper makers of Elstree, Herts, have just issued a handsome booklet in which, besides describing their war-time efforts for the Government—national work that fully occupied them until now—they survey virtually the whole field of the camera, from photography as an Art to X-ray and flashlight-work. Excellently reproduced photographs adorn the pages.

One in particular is of striking interest. It is called "Cause and Effect." It contains two pictures, the top one is of a British bombing-plane photographed by searchlight just before starting on a raid. In the second print we see the damage done to fortifications by such work, and it is very convincing. Messrs. Wellington and Ward have a permanent little photographic gallery at 101 High Holborn, London, in which of course, and naturally, the Wellington papers are the materials used for the pictures shown. This exhibition is usually one of high merit and perfect technique as regards printing; but for Messrs. Wellington and Ward to couple it with the Royal and the Salon, as they do in their notes on "Photography as an Art," which come first in the little book under discussion is, well—let us be sparing with adjectives and say—amusing. The uninitiated are given to understand that there are three shows in London worthy of a visit from the non-photographic, viz: "The Royal Photographic Society and the London Salon . . . and the permanent exhibition of photographs at the Wellington Galleries. . . ." And further on we read "On leaving exhibitions like *these*, etc." which again plainly links them all three together. Now one does not wish to be captious, and after all, a trade-paper is a trade-paper, published primarily to advance its wares. But in spite of these considerations we must protest against the suggestion, as it might mislead the ignorant. Messrs. Wellington and Ward's exhibition, when we last visited it, contained no signed photographs except those of Mr. Wellington, the rest of the contributors having apparently lost their identity as their prints were produced in the photographic works at Elstree. And to compare and couple such a show with an annual international effort such as the Salon, seems to us from all points of view a pity and a mistake, even as a business-proposition.

We had occasion lately to ask for a jar of photographic mountant at a photographic chemist's in a neighboring city, the price of which used to be 9d (18 cents). Cheerily spoke the assistant when he said "It's still two shillings." And we went home without it, and straightway looked up a recipe in the ever informative British Journal of Photography Almanac, which turned out easy to make and quite as effectual in use and cost about 2d (4 cents). And we thereby added one more to the long list of commodities we have learned to make instead of to buy, thanks to war-conditions, which undoubtedly include some excesses of profits, somewhere.



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

THE MARVELS OF PHOTOGRAPHY. By C. R. Gibson. Illustrated with photographs, diagrams and color-plates. Price, \$1.75. Postage, according to zone. Philadelphia: J. B. Lippincott Company.

Instead of reviewing "The Marvels of Photography" as an entirely new work, as has been done by others—and thus create a wrong impression—we wish to state plainly that, with several important changes, it is a reprint of "The Romance of Modern Photography," published in 1917, and reviewed in PHOTO-ERA of December, 1917.

The work under consideration is composed of the first fourteen of the twenty-three chapters constituting "The Romance of Modern Photography," the frontispiece has been changed and the appendix (a synopsis of historical incidents, names and dates) is omitted. Furthermore, the price of "The Romance of Modern Photography" has been advanced from \$1.50 to \$2.00, and it is well worth the increased price; whereas the present volume, published at \$1.50, was advanced to \$1.75 on account of augmented cost of production. It is a fascinating recital of the dawn to the noon-day of photographic practice. In fourteen chapters of surpassing interest are told the achievements of the three great photographic inventors—Niépce, Daguerre and Talbot; early practical methods; color-photography with and without color-screens; book-illustrations; three-color printing-process; photo-criminology; radiography; invisible rays and photomicrography.

THE BRITISH JOURNAL. Photographic Almanac, 1919. Edited by George E. Brown, F. I. C. Price, paper-edition, 75 cents; cloth, \$1.50; postage extra, according to zone. New York, U.S.A.: George Murphy, Inc., 57 East Ninth Street, American Agents.

The current volume of this always welcome annual appears again in diminished bulk. It is at least consistent, for the text is one-third of the entire contents, the other two-thirds, as solid advertising, denotes industrial activity, if not prosperity.

The text includes a directory of photographic societies of the United Kingdom: Epitome of Progress; Apparatus and Equipment; Photographing various Subjects; Negative-Processes; Printing-Processes; Color-Photography and Formule for the Principal Photographic Processes.

The leading article of the book, however, is by the editor, who writes fully and clearly on Photographic Definitions—chapters on the following subjects—The Lens; Focal Length and Focusing; Focusing; Stops and Speed of a Lens; F-Numbers; Properties of Lenses; Forms and Kinds of Lenses; Defects of Lenses; Cameras and Accessories; Sensitive Film; Plates Development and Negatives; Orthochromatic Photography; Qualities and Defects of Negatives; Negative After-Processes; Chemicals and Photographic Solutions; Photographic Prints; Silver Printing-Processes; Bichromate Printing-Processes; Iron Printing-Processes, and Trimming and Mounting Prints.

Professional Portraiture

IN response to many earnest inquiries regarding a comprehensive work on professional portraiture, we have obtained a supply of C. H. Hewitt's book, in two volumes, the first edition of which was published about ten years ago. Each volume, 5 x 7, about 120 pages, is illustrated and contains a two-page index.

The object of the book, as modestly stated by the author, is an attempt to interest the professional worker and to lead him to further study of matters suggested here. The book begins with the purely commercial side of professional portraiture, the requirements of a suitable studio, its arrangement and management. The conduct of the business, including the reception and treatment of customers, book-keeping, proofs, purchase of stock, publicity, show-cases, etc., are touched upon, but in a suggestive rather than in a dogmatic way, for the author—himself a professional portraitist—realizes that a studio-proprietor or home-portrait worker must consider the character of his public and local conditions.

There are chapters dealing with the use of accessories in the studio; posing, lighting and portraying the customer; composition and expression, and the avoidance of common errors, such as distortion caused by inadequate lenses or improper use of apparatus. The illustrations, from life and from portraits by famous painters, are representative and convincing. In spite of the fact that many amateur photographers are eager to enter the professional ranks without submitting to a long course of training—and there are many young professionals whose photographic knowledge is but superficial or elementary—these two handy volumes will be of great practical benefit. In any event, a perusal of their contents will serve to present ideas to the worker that may tend to improve his work, methods or business. Price, two volumes \$1.50, postpaid.

"Take" or "Make"

- "WILL you take my picture?"
"Have you got it with you?"
"No—NO—NO! Will you take my portrait?"
"Oh—OH—OH! Of course. Take it from me, it will be a good one. Please take a seat."
"Make me happy, and take a good one."
"I take it you want head and shoulders."
"I take you for an artist. I know you'll do your best."
"You make no mistake, I can assure you. Please take this chair."
"It looks as if it was made for you. Please take it easy."
"Do you want me to make a front or side view?"
"It makes no difference. Take your choice."
"Now, please take your glasses off; they reflect the light."
"Why, certainly; it makes me feel more at ease."
"Now take your time and make yourself thoroughly comfortable."
"Will it take long?"
"Please take no offense, but make room for a smile."
"Good; that will make an excellent picture."
"You seem to know your business—I take my hat off to you!"
"You take my breath away. Come again."

W. A. F.

Hold Your Liberty Bonds

HOLD fast to that which is good. Keep your Liberty Bonds.



RECENT PHOTO-PATENTS

Reported by NORMAN T. WHITAKER



The following patents are reported exclusively for PHOTO-ERA MAGAZINE from the patent-law offices of Norman T. Whitaker, Whitaker Building, Washington, D. C., from whom copies of any one of the patents may be obtained by sending fifteen cents in stamps. The patents mentioned below were issued from the United States Patent Office during the month of February, the last issues which have been disclosed to the public.

Glenn J. MacDowell, Chicago, Ill., has been granted two patents. Patent, No. 1,293,149, entitled Finder-Attachment for Cameras, and patent, No. 1,293,150, on Film-Aligning Spring for Cameras.

A Photographic Camera of the type employed on Aircraft, patent, No. 1,293,479, has been issued to Frederick C. V. Laws, Uxbridge Road, London, England.

Hans T. Clarke, Rochester, N. Y., has invented and patented as, No. 1,293,039, a Light-Filter, the patent being assigned to Eastman Kodak Company.

Patent, No. 1,294,333, entitled Adapter, was granted to Ernest W. Davis of Chicago, assignor to The Universal Camera Co., a Corporation of Illinois.

A Folding Camera, patent, No. 1,293,864, has been invented by Woolridge Brown Morton.

Werner Fetz of New York, N. Y., has been issued patent, No. 1,294,079, on a Photographic Film-Holder.

William Ebenezer Bond, county of Hertford, England, has received patent, No. 1,293,678, entitled Photographic Printing-Frame.

Patent, No. 1,295,062, on a Photographic Camera, has been awarded Frank C. Reynolds, Columbus, Ohio.

William A. Riddell of Rochester, N. Y., has been granted a patent on a Camera-Front. The patent, No. 1,294,705, has been assigned to Eastman Kodak Company.

Method of and Apparatus for developing Photographic Films, patent, No. 1,294,429, was issued to Philip E. Edelman of St. Paul, Minn.

Charles F. Bellemere has invented a Film-Hanger which has been patented and issued as, No. 1,291,379.

Inscription-Attachment for Roll-Film Cameras and Method of producing Light-Printed inscriptions has been patented by Elmer G. Kesling of Bloomfield, Mo., the patent number being 1,295,758.

A patent, No. 1,295,395, entitled Camera, issued to James M. Wade of Boston, Mass.

A photographic Lens-Carriage has been invented and patented as, No. 1,295,373, by William A. Riddell of Rochester, N. Y., assignor to Eastman Kodak Company.

George H. Chase of Emporia, Kan., has received a patent on a Panoramic Camera which is numbered 1,294,046. The patent-protection is very broad, and the principle of operation is a radical departure from that of the present-day type of Panoramic Camera. Means are employed for exposing successively given areas of the sensitized film, the exposures being so blended as to make possible the production of one continuous picture. Means are employed to prevent any line of demarcation at the point where one exposure joins the adjacent exposure. Several automatic fea-

tures are embodied in the device which accounts for its ease of operation. An important feature of the invention is a provision of means whereby a making of several pictures is made possible, without necessarily blending the exposure to produce a continuous or panoramic picture.

War-Use of the Stereoscope

THAT stereo-photography became of tremendous importance during the war is well brought out by Douglass Reid in a recent issue of *Popular Mechanics*. He says that "It was the stereoscope that proved to be the greatest single aid to the detectives of the aerial photography corps of the Allies in their discovery of the expertly hidden batteries of the Germans. It was the stereoscope that penetrated the best battery-camouflage that German artillerymen ever devised. Further than that, it removed the one great obstacle to the correct reading of aerial prints—lack of the proper perspective. The camera in the air photographs directly downward; in its pictures the height of objects is lost, and an entirely new viewpoint is given the observer.

"The picture made by a camera looks with one eye. A man looks with two eyes, and these two eyes, being a few inches apart, inform the brain that the object looked at has length, breadth, and depth. A one-eyed man looking at the front of a house would say it was a wall, but if he had another eye it would see a little of the side of the house and signal the information to the brain that the object had three dimensions.

"Now the aerial photographers applied this truth as follows: They knew that two photographs made of the same object with an ordinary stereoscopic camera, in which the lenses are $2\frac{3}{4}$ inches apart, would not produce the stereoscopic effect, since the object photographed would be miles below, too far for the camera to catch its dimensions and make them apparent in a picture.

"However, the photographers bethought themselves that if they put one hundred yards between the two pictures—snapped a trench from one elevation, moved one hundred yards ahead on a level, then shot again—it would be as though a giant with one hundred yards between his eyes were looking at the object.

"So they tried this, mounting the resultant photographs on cardboard and looking at them through an old-fashioned stereoscope. The result was better than their anticipations; the depth and height of objects were tremendously exaggerated. A cottage looked like a tower, a bucket like a well, a trench like a canyon, a hill like a mountain. But they soon learned to translate these eccentricities into common sense—the great thing had been done, the landscape was made to assume reality in pictures.

"Roadside ditches in which men might lie in insufficient shelter could now be told from high walls behind which there was ample shelter—an extremely important thing to know when men are to charge into such territory. Steep slopes up which the men were to charge, and which had been in ordinary photographs flat as water, now showed themselves in their true nature—death-traps—and the discovery of the fact saved the lives of the attackers."



WITH THE TRADE



A Successful Graduate

THE New York Institute of Photography, 141 West 36th Street, New York City, takes pardonable pride in the success of Mr. Harry A. Chase, who is a recent graduate. Mr. Chase was head of a staff of photographers associated with Mr. Lowell Thomas, a noted traveler and a foreign representative of the *New York Globe*. The motion-picture, "The German Revolution," now being shown at the Century Theater, New York City, was made by Mr. Chase who was an eye-witness. Other important motion and "still" pictures were made by his staff while it was attached to the American, Italian and British armies operating in France, Italy, Palestine and Greece. This is convincing testimonial to the thoroughness and the practical character of the photographic instruction to be obtained at the New York Institute of Photography.

The Crusey Print-Washer

A NEW type of print-washer has been placed on the photographic market by Crusey Brothers, Sidney, Ohio. The manufacturers are convinced that this printer is a distinct step in advance and that it makes a distinct appeal particularly to photo-finishers and to amateur and professional photographers.

We Should be Thankful

ACCORDING to the English photo-press, the prices of dry-plates have been reduced by about 18%, though the new prices (a quarter-size on ordinary plates) are still over 100% higher than pre-war figures. This makes the cost of dry-plates across the water still very high in comparison with what we pay over here. That luxury-tax of 5% is not much of a hardship for us Americans—provided that everybody, from manufacturer to retailer, doesn't tack it on. But, fortunately, the photographic industry is not afflicted with that sort of profiteer.

An Industrial Dilemma

THAT consistently patriotic journal, of London, *The Photographic Dealer*, is bursting with righteous indignation at the seeming return to public favor of German cameras and optical instruments. It cites prominently displayed advertisements in *The Times* offering for sale folding pocket-cameras and field-glasses of well-known German make. It also describes a harrowing scene at a well-known London dealer's, where two young men in officers' uniform entered and asked to see a Goerz-Anschutz camera. The dealer produced it. After having inspected it, one of the visitors said to the other: "That is the camera I want you to buy for me in Cologne." The two officers then left. No special criticism, however, is made of the firm for carrying and showing an enemy-product. In condemning these acts of trading with the enemy, *The Photographic Dealer* calls upon the British dealers' and manufacturers' associations to put a stop to this nefarious business, and earnestly hopes that prompt action will follow the publicity given the matter.

It may encourage the loyal English press to know that our own government has prohibited the importation of German-made products, including cameras, lenses and chemicals—unless these goods were in the exporters' possession before the war. But, assuming that the prohibition does not include enemy goods manufactured or in stock in Allied or neutral countries (England and Switzerland, for example), what then? The English press must know that the Germans have established factories in Switzerland, and are very busy, indeed!

Two Practical Business-Pointers from Charles G. Willoughby, Inc.

IN the April issue we had a few words to say about selling photographic magazines. We pointed out that it *pays* to sell them. A few days ago, we received a letter from the well-known photographic supply house of Charles G. Willoughby, of New York, in which the writer expressed approval of our statements and added, "About selling photographic magazines, we feel that the sale of photographic magazines helps to increase the sale of photographic merchandise; and any store that does not make an attempt to sell them, is losing an opportunity."

In the organization of Charles G. Willoughby, the employees share the profits and also have the privilege to become stockholders. According to the officers of the corporation, this plan is working quite satisfactorily. In fact, it is working so well that the officers hope to enlarge the profit-sharing policy now in force. Is not this plan worthy to be adopted by other wide-awake photographic dealers?

A New Developing-Paper

A BRITISH manufacturer announces that he is now able to supply a new developing-paper that combines gaslight-quality with regard to the blacks and bromide-quality with regard to the gradations. The required exposure is about two seconds with a 100 C. P. light, and development should last at least one to two minutes. No alteration of the printing-apparatus is necessary except to increase the power of the illuminant. The darkroom-lamp may be bright yellow, and even weak artificial light might serve occasionally, thus making printing easier and more pleasant. The composition of the developer has a most important bearing on the results. The developer should be of the M. Q. type and well restrained with potassium-bromide. It is generally supposed that the liberal use of potassium-bromide for developing-papers gives greenish tones; but it is claimed that this is not so with the new paper in question. The image will not "flash up," but will build up gradually as in the bromide-process. It is stated, furthermore, that the latitude is very great, thus making results more certain. If the claims of the manufacturer of this paper are substantiated by the experience of practical photographers, there is no doubt that the new paper will make a popular addition to the many excellent printing-mediums now on the market.

JUNE

1919

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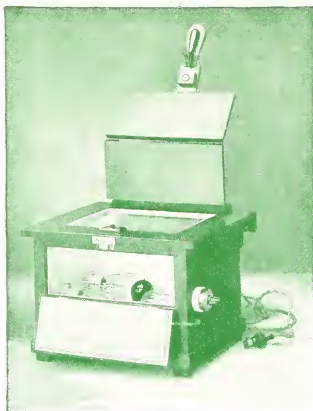
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The machine is simple in operation, rugged in construction, sure in performance. It will accomplish with ease and certainty all that is demanded of an 8 x 10 printing machine.

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RUTH
F. E. RICH
CHICAGO CAMERA CLUB



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No. 6

The Chicago Camera Club

F. M. TUCKERMAN

N the list of American photographic societies published in the latest "Annual," there are many cities missing—especially of the middle west—each of which could and should have a vigorous camera club. Some of those that are published are known to be moribund; possibly a fair percentage of the remainder should be so considered, as they are seldom or never heard from outside of their home-cities.

With the photographic stock-houses prospering and the artistic side of photography enjoying vigorous life—fostered by the wideawake clubs in Pittsburgh, Los Angeles, Portland (Maine) and two or three other cities—this condition is strange, indeed. One club thinks that it has solved the problem; and, in the hope that its bitter and costly experience may help other clubs to better times and encourage camerists in general to form new clubs where they are needed, it now speaks out for the benefit of all.

This, then, is to be a brief recital of the ups and downs, the failures and successes of the Chicago Camera Club. Established in 1904, on the dissolution of the Chicago Society of Amateur Photographers, it grew slowly, hampered by shortage of members—delinquent ones—and a consequent lack of funds; but still it gradually expanded. Finally, in a wave of optimism, engendered by a heavy increase in membership obtained by persistent work and advertising, larger quarters were procured at greatly increased rental, and these were fitted up at a considerable expenditure of time and money.

This constant financial drain made necessary a continuous campaign for members who were enrolled—but could not be held. Many, who came at the importunities of their friends, dropped out at the completion of their first term; the transient membership mounting to as high as forty per cent of the total membership in one year. It became increasingly difficult to obtain

sufficient new members to supply the funds necessary—dues had already been increased to "all that human nature would bear." Discouragement and pessimism were the ruling spirits; and, finally—as was inevitable—the club "went on the rocks" financially.

In the reorganization which followed, a careful study showed the causes of the failure to be: First, too expensive rooms maintained for a heavy membership, each of which made the other necessary. Second, the transient character of the membership which resulted from the need of vigorous recruiting to keep up the membership—and, sometimes, the undesirable type of the recruits. Third, the lack of a definite policy and program necessary to the sort of success which would attract and keep desirable members.

The first cause of failure was met by limiting the membership to fifty-seven and obtaining modest rooms to accommodate that number—and no more. Part of this membership consisted of life-members, an arrangement opposed by the writer as tending—in a small club—toward a sort of aristocracy, which reduced the yearly income as well. But we needed money, and so we compromised by refusing to sell more than the few initial life-memberships. This number was to be reduced as the holders thereof became inactive by their election to "honorary-life" membership, thus making space for new active non-life members. Three life-members have already been passed to the honorary class.

The second difficulty was met by the elimination of the first one and by the consequent early formation of a waiting-list. Also by exacting an entrance-fee, by dropping members who failed to pay dues promptly, and by insisting on careful investigation of prospective members.

The third problem was solved by forming the ex-presidents into an advisory committee to assist in holding the club steadfast in the path it has chosen and to suggest improvements, when-



A BIT OF OLD PORTSMOUTH

H. F. RICH

CHICAGO CAMERA CLUB

ever possible. The ex-secretaries also form a similar committee to help the incumbent secretary and have formulated standard methods of book-keeping and a very satisfactory system of making the club-reports.

However, the general policies outlined above are but the framework on which to build the artistic and social life of the club. It is recognized that to hold members, three things are necessary; viz.: convenient working-facilities *kept in good order*; an interesting and instructive program for the weekly meetings; and the opportunity *and incentive* for members to exhibit their pictures, as well as to see the work of other clubs and individuals.

A few remarks with regard to our rooms and equipment may be of interest to show how we fulfil the first condition. The work-rooms are

compact—planned to avoid many steps just as in a well-arranged kitchen. Darkrooms are so fitted up that each one may be used for any class of work, developing, enlarging, slide-making, etc.; but they are entirely without plumbing, thus checkmating the member who formerly used a room double time while his prints or plates washed! There was some objection to this arrangement at first; but the large central washing-sink was found to be wholly satisfactory. This plan also cuts *in half* the number of separate rooms necessary for a given membership, and eliminates the heavy expense of plumbing as well as the periodic overflows resulting from the clogging of small sinks. Darkrooms are built of wall-units made of two-by-four frames plated with sheet-steel, individual ceilings, door-sections, etc., all bolted together so that they may



THE SMILE

K. A. KJELDSEN

CHICAGO CAMERA CLUB

be removed easily by two men with an equal number of monkey wrenches and with no loss of material. We learned this trick after losing a thousand dollars' worth of material in one removal! The washing-sink, with attendant slop-sinks, is built on the same plan—one man, one wrench and fifteen minutes can make it all ready for removal. Of course, electric wiring is somewhat different, although the connections of each darkroom are on one removable panel. Lockers are in sections of four each, and are uniform in size for convenient arrangement. All "dry-work" apparatus such as mounting-bench, Cooper-Hewitt printer, retouching-stand, etc., are in a separate room. Loungers and checker-players are carefully put by themselves! Free bottle-space is provided; but standard bottles

are insisted on with regard to the large sizes,—this is to avoid the usual junk-shop appearance.

The trimming-knife and cutting-board are hinged to the wall back of the work-bench and are kept folded up when not in use. The print-dryers are curved shapes of galvanized iron of eight by ten and eleven by fourteen sizes and are bent over on two edges to hold the prints. These are stacked on edge for good drainage; and prints come from them virtually flat. Small prints are handled on the usual cheese-cloth frames set on a slant.

The combined studio, assembly-room and exhibition-room measures about sixteen by fifty feet, with an eight-foot space back of the backgrounds and lantern-screen for dressing-room and the storage of chairs. Four feet at the other end



THE DIMPLE

F. M. TUCKERMAN

CHICAGO CAMERA CLUB

enables us to house a folding projection-lantern and serves as a cloak-room. The portrait-light consists of two Cooper-Hewitt tubes mounted on a brass-pipe column with counter-weights inside the pipe which permit vertical motion; the whole being carried on a truck made of gas-pipe and provided with enough stage-cable to permit a wide range of movement.

The thirty-eight foot studio gives ample space for full-figure work with the eight by ten camera, permits comfortable seating for nearly one hundred persons at lectures, and provides nearly eighty lineal feet of wall-space, or enough to hang a large exhibition.

The programs for the weekly meetings are as varied as possible. In general, the committee responsible for them endeavors to keep away from the "cut-and-dried" demonstration, al-

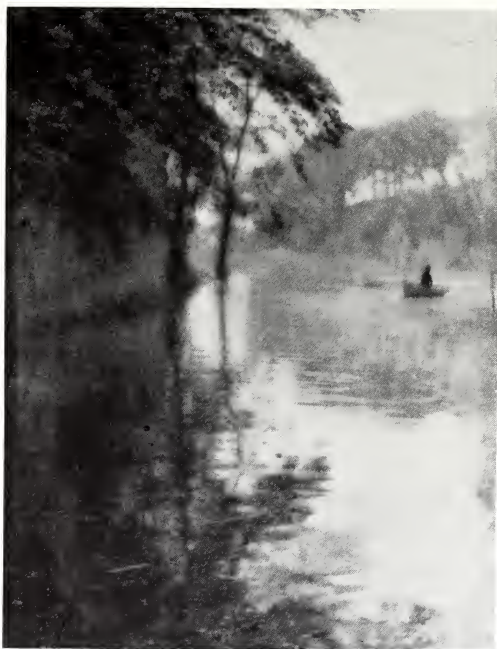
though one of some special process is put on occasionally. Lectures, with or without the lantern, by members or outsiders, are usually featured each month and some studio-demonstrations—sometimes by professional experts—with model in costume, have been very popular. However, the most important thing on the programs is the discussion of prints submitted by the Print-League—a group of members pledged to submit one print each on some given subject every month. These are looked over carefully and suggestions for their improvement are discussed. These prints appear frequently in exhibitions in revised and improved form. To these discussions—with their constructive criticism—much of the improvement in the work of the club may be directly traced.

The third necessity—the providing of oppor-



A PASSING SHOWER
PAUL WIERUM
CHICAGO CAMERA CLUB





"BESIDE STILL WATERS"

GORDON C. ABBOTT

CHICAGO CAMERA CLUB

tunity and incentive for the exhibition of prints —has been met in several ways that have proved very successful. In addition to the Print-League mentioned above, "one-man" exhibitions have been scheduled—each and every member being expected to do his part. The prints in these one-man shows have been limited in number to ten to fifteen, giving the less prolific worker an even chance with the man who makes many prints. Sometimes this scheme has brought to light some talent that even its possessor was not aware that he had, and it has added materially to the pictorial strength of the club. Moreover, this plan has furnished a continuous exhibition which the daily press has been glad to mention frequently and cordially.

Another incentive for picture-production is furnished by contests for two loving-cups, one for portraits made in the studio by "studio-groups" of three, and one for landscapes made by individuals. These cups have roused so much interest, that the idea will be extended this year by offering a cup for genre-work.

To avoid the danger of our photographic work becoming "ingrown," so to speak, we have a series of exhibitions by well-known pictorial workers from various parts of the country; and, once in a while, an exchange-exhibit from some other club. For these a neat catalog is printed and a reception-night is arranged for members and friends—not forgetting the art-editors of the daily press who are an important factor.

All this work leads up to the big event, the Annual Exhibition in the Art Institute, which is selected by a jury of pictorial photographers and painters. Here the lessons learned in the Print-League and in the one-man shows are sure to bring their results!

From these brief remarks the reader may see what one club has done to lift itself out of the "slough of despond." It has been done on a very modest revenue—especially for Chicago. It is derived from an entrance-fee of twenty dollars and annual dues of twenty-one dollars

plus about one hundred dollars per annum from locker rentals. Possibly, this story of camera-club troubles and their overcoming may encourage some other club to take stock of its own liabilities and assets, to study its own needs and to get right down to essentials. May it also encourage the formation of new clubs—with their program carefully thought out, their membership chosen cautiously and limited to the capacity of rooms kept within the financial means of the club. We testify that it is eminently worth while to adopt a definite policy of club-management.

"And Now to Sum Up"

Ninth—and last—of the "Professor Pyro" Talks

MICHAEL GROSS



N this, the concluding talk on the evolution of photography," began Professor Pyro, "it is my intention to summarize briefly the ground we have covered at the preceding eight meetings, so that the entire subject—as we have traced it from its earliest days—may shape itself with a clear and definite continuity in your minds.

"In the course of the first meeting we found that the desire to catch and make permanent the images cast by the sun, had occupied men's thoughts as far back as history records. That the manufacture and use of simple lenses must have been understood by the ancients, was made clear to us when we learned that a glass-lens had been found in the ruins of Nineveh—a city destroyed a thousand years before Christ.

"The next important forerunner of the discovery of photography came, as we found, when Pliny observed and recorded the fact that yellow wax was blackened by exposure to sunlight. Fifteen centuries later showed us Fabricius making a similar observation regarding the effect of light upon horn-silver.

"This brought us to the year 1650 and the invention, by Della Porta, of the Camera Obscura—a light-tight box with a lens-covered hole in one wall through which exterior scenes were focused on an opposite wall. Although the Camera Obscura was used mostly by artists, we found that Della Porta's invention was destined to play a very important rôle in the evolution of the science of photography.

"Schultze, the scientist, next came to our attention and, in 1725, we discovered him making photographic copies of a manuscript by placing it upon a piece of paper which had been coated previously with salt and silver-nitrate. The sun, passing through the unwritten parts of the manuscript, but being stopped by the opaque ink with which the words were written, gave a print that showed lines of white letters on a black surface. The difficulty to keep the finished print from darkening upon further exposure to sunlight, was the only bar to the practicability of Schultze's process; and, unable to find a way to remedy this trouble, he gave up his photographic experiments entirely.

"In our second talk we shifted the scene to England where we discovered that Thomas Wedgwood was making similar experiments to those carried out by Schultze, using white pieces of leather instead of paper for the base of his solution. Wedgwood, we learned, though assisted in his experiments by Sir Humphry Davy—the celebrated scientist of that day—was also unable to find a way to make permanent the 'sun-pictures' he obtained.

"The discovery of the properties of hyposulphite of soda in 1819, by Sir John Herschel, finally ended the search for a means to fix the elusive image and, as we saw, gave the scientists of that day a new impetus to evolve a workable photographic process.

"We now came to Henry Fox Talbot, the venerable father of photography—as we know it to-day, and found that, by coating nitrate of

silver upon a sheet of paper, drying the emulsion and then exposing the paper in a camera, Talbot succeeded in obtaining a paper-negative. By soaking this negative in oil, thus making it transparent, positive prints could, in turn, be produced. Talbot, we learned, published the first book in the world to be illustrated by actual photographs, and we were fortunate enough to see a reproduction of one of the original Calotypes—the name he gave his process—used in this volume.

"Photography could now be said to have reached the 'toddling' stage, being just about able to stand up and walk without assistance. It was then that Niépce, in striving to hit upon a method to draw designs upon a lithographic stone by some artificial method instead of by hand, stumbled across a valuable photographic discovery. He found that a metal-plate covered with a varnish of bitumen and exposed, for about twelve hours, in a Camera Obscura, produced, upon development, an image of the scene secured, the design appearing in bare metal on a varnish background.

"We now followed Niépce to Kew, and then, leaving him there to carry on a series of photographic experiments, went to France and made the acquaintance of Daguerre, a celebrated scenic painter of his time and the inventor of the Diorama. We found that, as an aid in producing his scenes, Daguerre had been using the Camera Obscura and that, like many of his predecessors, he had tried to 'fix the image.' We saw that his feverish efforts to accomplish this aim caused his wife and friends to believe that he was losing his reason. Three years after Daguerre began his photographic experiments, he heard of the work of Niépce along similar lines and wrote to him for further details. We learned of how this exchange of letters led to the joining in partnership of Niépce and Daguerre, the object of the alliance being, as the original articles of agreement show, to 'elaborate a process invented by Niépce and improved by Daguerre.'

"We found the two inventors now working together until the death of Niépce in 1833. Six years after the death of his partner, Daguerre announced to the world that he had discovered a practical and efficient method to produce photographs, being careful to add—as we have seen—that this method was altogether different from that originated by Niépce. Despite this assurance, however, we find France granting a pension to Isidore, the son of the elder Niépce, as well as to Daguerre for his efforts.

"The daguerreotype, as we saw, sprang into instant popularity. We followed it to New York, and finally, after ten years of uninterrupted popularity, saw it sink into virtual oblivion upon

the introduction of the wet-collodion plate, discovered and perfected by Scott-Archer in 1851. We found that the collodion-process enjoyed a well-earned popularity until it, in turn, was superseded by the dry gelatine-plate, placed on sale by Wratten & Wainwright in 1878.

"Now came the quest for a more practical photographic base than fragile, bulky glass. Celluloid, first discovered by Parkes in 1859, but perfected and commercialized by Hyatt of Newark, seemed to be the most suitable medium for this purpose and, in 1844, we find John Carbutt, of Philadelphia, experimenting with this new material. We followed the trail of celluloid through diverse changes and improvements until we finally arrived at the time of Goodwin who, in 1887, perfected the first celluloid roll-film. This was followed, as we found, by the patenting, in 1894, of the daylight-loading film by Cody, which eventually developed into the film-cartridge of to-day.

"As soon as black-and-white photography in a compact, easy-to-make form became an accomplished fact, we find men's thoughts now turned to the reproduction of nature in all her wondrous range of color and we learned of the Clark-Maxwell theory that all the colors of the spectrum could be obtained by mixing three primary colors—orange-red, green, and blue-violet. We saw how Clark-Maxwell's theory gave E. F. Ives the clue to his three-color process, by which three plates were exposed through three differently colored light-filters—one giving the 'greenness,' one the 'redness,' and the third the 'blueness' of a scene. These plates were afterwards developed and the glass-positives shown through three lenses identical in color to those with which the picture had been made. Through a peculiarly arranged reflecting-box we found that Ives succeeded in superposing the images thrown by these three positives and thus obtaining a composite picture in full color.

"After learning of many varieties of this process—all based on the same principle of three negatives made through color-filters and afterwards superposed through three colored lenses, or else the plates themselves dyed in the three essential primary colors—we came to the invention of the Lumière color-plate. This, we learned, was an ordinary photographic plate, to which had been added, between the emulsion and the glass, a layer of starch-grains. We found that these grains were dyed orange-red, green and violet and that, when the plate was exposed, each of these colored rays acted as a sort of color-screen. On being developed and then turned into a positive, the resultant picture was shown in the full colors of the original scene.



"WORTH TWO IN THE BUSH"

CARL HAGUE

"In our sixth talk we found that, although the sun furnished the best light for picture-making, other lights had been used for this purpose and had yielded remarkably successful results. We learned of the experiments of Professor Wood, who made pictures by the ultra-violet and infra-red rays. These rays, we discovered, were found to be at the extreme ends of the spectrum and were invisible to the human eye. Through Professor Wood's experiments we learned that landscapes photographed by means of the infra-red rays gave us black skies and white trees; and that in photographing by the ultra-violet rays no shadows were obtained, although the scenes were made in full sunlight; also that the ultra-violet rays were stopped by clear glass. We learned that if our eyes were sensitive to only these rays of light we could not see through the crystal of a watch, nor could we see through a pane of glass in broad daylight. In this same talk we became acquainted with the experiments of Professor Brooks, who, we found, had succeeded in obtaining prints made by the direct rays from the planet Venus.

"At the seventh meeting we took up the devel-

opment of Kinematography. We learned of the theory of 'the persistence of vision,' upon which is founded the entire structure of motion picture photography, and found that the phenomenon was due to the fact that it required a brief interval of time for the human eye to telegraph to the brain a picture of what it saw; that if, during this interval, another progressive picture were to be substituted for the first, the sensation in our brain would be that we had seen the object move. We followed the development of this great science from the introduction of 'The Wheel of Life' in 1845—which, we found, was merely a cylinder with slots cut in it through which, when the cylinder was revolved, a series of pictures pasted inside seemed to be in motion. We learned of the animal-studies produced by Muybridge in California, and saw how the showing of these progressive pictures started inventors all over the world to work on a process to make pictures move. We learned that glass, being such a bulky medium to work with, proved too great a handicap, and that it was not until Goodwin invented the celluloid film that Kinematography (motion-picture photography) really began to

make headway. Then, in quick succession, came the invention of the Edison Kinetoscope, the Friese-Greene motion-picture camera, the Lumière Kinematograph and, finally, the 'movies.'

"For our eighth talk we took up the history of radiography, and learned how the discovery by Professor Roentgen, that the rays of the Crookes tube could penetrate paper, wood, cloth and other similar objects, but that these rays were stopped by the bones of the human body and certain metals—had proved of inestimable value in surgery.

"I believe that we have now covered nearly every phase of photography—a process of which the initial number of *Humphrey's Journal*, the first photographic magazine ever issued, said:

'The art of producing portraits and landscapes by means of light will, in all probability, lead to important and interesting results.'

"That many important and interesting results did spring from this art is proved by the fact that to-day the camera has become an invaluable aid to the physician, the botanist, the zoölogist, the microscopist, the astronomer, the naturalist, the criminologist, the detective. Photography, in some one of its many branches, enters into nearly every industry that can be mentioned.

"It is my sincere hope that the series of talks which I have just concluded will cause you to have a better understanding and a clearer conception of the evolution of photography—its principles and its processes."

With a Camera at Niagara Falls

E. S. ANDERSON



INASMUCH as the historical and scenic beauties of the Old World are barred to us by the Great War, this year will see the grandeur of many localities in our own country exploited fully. And, from North and South, East and West, everyone who crosses this big continent of ours should try to see Niagara Falls. In view of the fact that a goodly proportion of these sightseers are equipped with cameras and have their pockets filled with plates or films, there is reason to suppose that many readers of PHOTO-ERA will—when the opportunity offers—expose many plates and films in the effort to picture the many interesting pictorial beauties at the Falls and in the rapids below them.

Although Niagara offers many opportunities to camera-users, it presents difficulties and pitfalls to him who makes his first attempt to photograph the rushing waters. Many have left the Falls impressed by their grandeur and very certain that they had obtained a splendid pictorial record of them, only to be bitterly disappointed when the films or plates were developed. For this reason the present article is written, in hope that it will aid many readers to make a satisfactory picture-record, to go equipped to best advantage and to know what to look for when the Falls are reached.

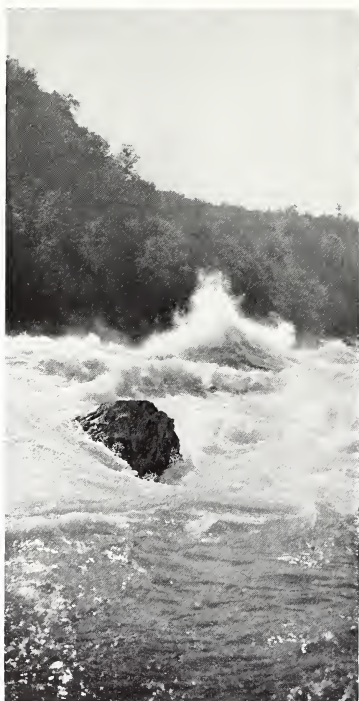
The first point to consider is the photographic equipment to be taken. Many chief points of interest involve considerable rough walking, and

a plate-camera is not advisable for that reason. Moreover, a large supply of plates must be carried with it in order to photograph the many interesting scenes. There is no place to change plates or to refill the plateholders; and, if there were, it must be remembered that time is at a premium. This factor alone points to the selection of a film-camera which can be loaded quickly and conveniently. A half-dozen rolls of film will be none too many—and how many of us would like to carry eighteen filled plateholders when sight-seeing? Not only size and weight but general convenience makes the choice of the film-camera the best in the circumstances.

So much for the type of camera. How about the lens-and-shutter equipment? Here we are answered by the usual phrase, "Have the best lens-and-shutter equipment that your pocket-book will afford." This is a hackneyed phrase, but its commonness should not rob it of its significance. If a good lens and shutter is needed anywhere, it is surely needed at Niagara Falls. The water flows with the speed of an express-train in some places, and flying spray—wind-blown—requires a fast lens and shutter to stop the motion. To emphasize this point, it should be said that the illustrations that accompany this article were made with a 3A film-camera, equipped with an F/6.3 lens and Compound shutter. Although the writer has used other equipment at the Falls at various times, this camera has given the most satisfactory results.



AMERICAN FALL FROM STEADMAN BLUFF
E. S. ANDERSON



WHIRLPOOL RAPIDS

E. S. ANDERSON

It should not be assumed that the more common rectilinear lens, or the slower F/7.7 anastigmats, will not produce good pictures; however, the *advantage* lies with the F/6.3 lens and a rapid shutter like the Compound or Hex Acme.

If a plate-camera must be used, obtain a lens and shutter such as that recommended. A compact "film-plate" camera, in postcard-size, fitted with a film-pack adapter, makes a good second choice of equipment, if the camera-user prefers the plate-type of camera.

If one has but a single day to spend at the Falls, time is at a premium. The earlier the arrival, the better. The first pictures should be made by 9.30 A.M. at the latest, if the com-

plete tour of the Falls and rapids is planned. Ticket-vendors on the train will offer a choice of two trips around the Falls. The one-dollar trip should be the photographer's choice, with the exception of the conveyance to Goat Island. The trip-ticket, six rolls of film and a bar of sweet chocolate will equip the camerist for about six hours of work. By all means have plenty of films, for six six-exposure rolls will wind past the little red window in the back of the camera in amazingly quick succession.

Before any exposures are made, one fact should be remembered carefully. Few photographers, even though experienced, realize the strength and brilliancy of the light reflected from the Falls and rapids, and likewise the extreme contrast it forms with the shadows in the rocks and foliage along the banks of the rapids. Strong contrasts require full exposure. A wide-open lens will not admit too much light to counteract the light and shade extremes found at the Falls. A general view of the Falls, in bright sunlight, will be fully exposed in 1/200 second at F/8, but along the wooded slopes of Goat Island or deep down in the Gorge, the light on the water may be nearly as intense as that on the Falls, but rocks and foliage may need an exposure of at least 1/10 second to obtain detail. In such case a compromise must be made, the exposure depending on the amount of shadow included in the picture. By planning the route wisely, so as to photograph the interesting places at the best time of day, some of these extremes may be partly avoided.

The first point to visit is reached by crossing the bridge across the rapids above the American Falls, and by walking across Goat Island to the Three Sisters Islands. These and Goat Island are connected by a series of foot-bridges; a few interesting views can be found at the upper end of each island, where the rocks, whitecaps, and the water rushing under the small bridges offer good subjects. Avoid the deep shadows as much as possible. The outer island offers the largest variety of views. Although risky, it is possible to jump from rock to rock, and to reach a position from which the upper end of the island is outlined against the surging water. By including one or two interested spectators and by swinging the camera toward the mass of rocks—thereby silhouetting the trees to advantage—an artistic and interesting composition is obtainable.

The next point of interest is the Horseshoe Fall. This is reached by returning across the Three Sisters bridges, turning to the left and following the contour of the island. Along the path there is small opportunity for picture-making, for the fringe of foliage makes a black silhouette on the print if exposure is shortened to



WHIRLPOOL RAPIDS, ABOVE PLATFORM

E. S. ANDERSON

obtain good detail and values in the whitecapped and turbulent water.

When the camerist arrives at the Fall, he hastens out on the observation-point—eagerness personified—and with his camera ready. The view is worth seeing; but a photograph is usually disappointing. But at the American end of the Fall there is a small, fenced-off grassy plot, with a conspicuous “Danger” sign placed near the edge of the precipice. On the other side of this fence is a viewpoint which will show the mighty flow of water to advantage. At an aperture of $F/11$, an exposure of $1/100$ second will give a well-timed negative if the day is bright. This aperture will also provide good depth of focus with a lens of $6\frac{1}{2}$ -inch equivalent focal length, such as that on the postcard-size camera with which the illustrations were made. Continuing down the path toward the American Fall, there is a splendid opportunity for another view of the Horseshoe Fall—this time with the camera held vertically. A little crook in the path provides a promontory from which the view can be made.

The American Fall is the next point of interest and is reached by walking further along the path to Steadman Bluff, which is on Goat Island at the edge of the Fall. Hold the camera vertically so that the depth of the Fall may be shown as fully as the driving clouds of flying spray will permit. An exposure of $1/100$ second at $F/16$

will yield a good negative here, for there is little to furnish any strong contrast.

By crossing to Luna Island another view of the Fall may be obtained. This time, the camera held horizontally, will give what is, perhaps, the choicest negative. If the shutter has sufficient speed, the frothy outlines of the falling water and driving clouds of spray can be reproduced beautifully. The horizontal view is of advantage because the depth of the Fall is completely obscured by the mist, so that the foreground and left edge of a vertical view would be wasted; also, the horizontal view displays the breadth and distance of the Gorge. This, a vertical view cannot include. An exposure of $1/200$ second at $F/11$ should be used here; another exposure at $F/16$ should be tried if the day is particularly bright. The writer must confess that he made three exposures of this subject to make sure of it; perhaps, others will find such a method a wise precaution here and elsewhere. Another precaution at this point is to examine the lens to make sure that there is no condensed moisture or flying spray on its surface. From this point to the end of the trip the lens must be watched carefully to see that it is clean and dry.

By returning to the roadway, over to the mainland, we find that the next point of vantage is at Prospect Point at the opposite end of the American Fall. Here, another exposure or two



ANOTHER GLIMPSE OF WHIRLPOOL RAPIDS

E. S. ANDERSON

of the same duration as before, with the camera held horizontally, will show the breadth of the American Fall with the Horseshoe Fall in the distance. If Fortune smiles, the little Gorge steamer, "Maid of the Mist," will be silhouetted against the Falls, and make an interesting detail in the picture. Another view, very similar, can be made a hundred yards up the path, at a point higher than the last viewpoint. Here, another crook in the path provides a spot comparatively free of a clogging foreground. A smaller aperture with longer exposure is of advantage.

Next, step into the elevator and descend to the foot of the Fall. After scrambling part way up the cliff in order to get the top of the Fall in the finder, we meet our first serious problem—the wall in the foreground is of red rock, poorly lighted. As a rough guess, 1/10 second at F/8 would not be too much exposure. Unfortunately, this shutter speed would yield a very unsatisfactory picture of the Fall. Right here, let the imagination make the necessary compromise with regard to exposure. Tons of falling water—foam-flecked and misty—are literally hurtling through the air to thunderous impact against huge boulders at the base of the cliff. It is the water, the foam and the mist that one wishes to remember; very little of the rock is to be seen, one does not care to remember it—in consequence, make the exposure accordingly, allowing 1/100 second at F/8, or a little larger opening if the lens permits. Here, too, is one

of the rare occasions when it is permissible to tilt the camera upwards *a little*—there are no straight lines to converge inward toward the top. However, not much tilt is needed, as a good viewpoint will be found a few yards above the boat-landing. A very good plan is to place a ray-filter over the lens while locating the image in the finder and to remove it only at the instant before exposure. The wind-currents at this place are very tricky, and without any warning a thorough drenching may be expected. The ray-filter will keep the lens dry up to the moment of exposure.

By this time it is noon; but there is no time for a rest. The bar of chocolate may be requisitioned while the photographer is waiting for the car that is to take him around the gorge-route. The American side should be viewed first, stopping off at Whirlpool Rapids on the way. Here, a concrete-platform has been built out a few feet past the water's edge. Many pictures can be made of the masses of water and flying spray. Incidentally, if it is a hot day, a first-class opportunity here presents itself for a cooling shower-bath; without any warning a wave will form and dash against the concrete-walls of the platform, to be blown like a miniature cloudburst across the startled and unable-to-get-away spectators.

Within a few hundred yards, each way, from the platform an agile person can obtain several splendid photographs by climbing down to the

water's edge. However, a word of warning: the noise of the thundering waters is so great that a companion's warning-shout, or the rattle of loose sliding rocks, will not be heard. Take no chances, for—speaking plainly—a false step may mean a plunge into the rushing waters that spell sure destruction to any living thing. This statement may seem exaggerated; perhaps an incident seen by the writer will impress readers as it did him. Early one April, before the rapids were cleared of ice, the writer was watching the waves from this platform; a strong up-stream wind was blowing. Suddenly a huge wave formed and a mass of white spray shot into the air. Immediately the wind dispersed it, and there—flying through the air—were innumerable pieces of ice, including chunks up to fully ten inches in diameter, that the water had tossed lightly full twenty feet upward. What chance, may I ask, has mere man in the grip of such an enormous force?

whole area of the pool while depressing another; the level of the two areas sometimes shows a variation of several feet. As the view must be photographed from the top of the cliff where the observation-car stops, this difference in height is lost in the photograph of the whirlpool itself; but it can be shown fairly well in a combined view of the rapids and pool. Where the water surging back from the whirlpool strikes the tremendous stream that is hurled through the gorge, a ridge of water rises—foam-topped and swaying, like the front ranks of two huge armies, attacking and countering, advancing and retreating. From this ridge the level of the water declines visibly on both sides. This phenomenon may be seen—aided, perhaps, by a little imagination—in a photograph of the rapids and the foam-topped ridge, which includes the curve in the bank on the American side.

Photographically, there are no other strikingly



AMERICAN FALL FROM CANADIAN SIDE

E. S. ANDERSON

On the Canadian side there is little opportunity for picture-making until the whirlpool is reached. This wonderful phenomenon is worth the stop-over to see, although a photograph of it may prove to be disappointing, because it fails to record the impressiveness of the scene. Aside from the size of the tremendous body of whirling water that seethes and wrestles in the rock-bound pool, the *level* of the water commands immediate attention. At school one of the first things that we all learn is that "water seeks its level." Here, it apparently does not. In the first place, there is more than one whirlpool; many constantly shifting, disappearing, huge swirls of water revolving around minor axes, and the entire mass of water rushes around a common vortex. The result is a tremendous under-pressure—always in motion—that elevates one

beautiful vantage-points until the Horseshoe Fall is reached again. The writer has never obtained a good picture close to the Fall at this point, as the wind has always driven the spray heavily for many yards around, thereby making photography impossible. Perhaps, others will be more fortunate; the view is worth making. There are several interesting views to be had back nearer the International bridge, which show the American Fall in one horizontal picture and the Horseshoe Fall in another. A third exposure showing the cliffs between them provides material for a panoramic panel that can be fitted together by composite-printing. For these distant views, an exposure of 1/50 second at F/16 will serve to advantage.

In crossing the International bridge back to the American side, do not omit to make two or

three views showing the topography of the Falls. Late in the afternoon, a direct lighting strikes the entire contour of the cliffs and penetrates the mist, furnishing material for some beautiful pictures.

Other views than those mentioned are found in abundance at the Falls, but in a single day—making use of ordinary stop-over privileges—those mentioned will take about all the time that sunlight is available. The points mentioned will be found on the advertising-leaflet that the ticket-vendors offer, and will prove helpful as a guide to make the best itinerary from point to point.

Niagara seems to grow in power and wonder

every time you visit it. The first visit brings interest, the next wonder, and subsequent ones increasing awe. No pen can describe it, for no language possesses adjectives forceful enough to portray the never-ending, constantly changing exhibition of the Creator's strength as displayed through Nature at this outlet of the Great Lakes. Yet, in large measure, our cameras can give us a record of the things we see and feel when viewing Niagara, and bring back to us with almost unimpaired memory, the wonders of the waters that hurl themselves so ceaselessly over the cliffs and through their self-cut channel toward the quiet of the lake beyond.

Insects in Comic Photography

LEHMAN WENDELL



SEVERAL years ago I introduced the readers of PHOTO-ERA to the mysteries of comic insect-photography. The pictures aroused a great deal of interest, and before long requests came to me from some of the big magazines for unpublished prints. Then a motion-picture house got hold of my pictures, and, in spite of the fact that they were all copyrighted, the firm copied the pictures with their motion-picture camera and projected them on the screen for the delectation of the little ones. Next, a photographic supply-house wanted the prints for its display-window and for its house-organ. To cap the climax, the president of a naturalists' society wanted a set of lantern-slides of my comic insect-pictures, presumably to convince his fellow scientists that insects stand high in the scale of development, and that grasshoppers, in particular, are not very much inferior to man in point of intelligence. All this led me to believe that it might be worth while to enlarge my collection, which I forthwith proceeded to do. Meanwhile, I have greatly improved my technique of photographing insects and I am sure that another article on this amusing branch of photography would therefore be welcomed by the readers of PHOTO-ERA.

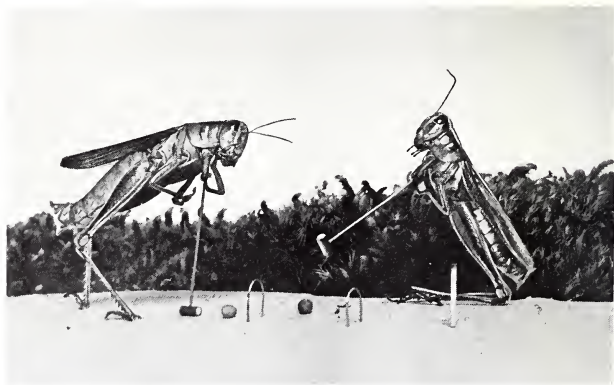
The question of how I produce my pictures has puzzled many. Some declare that I employ men and women, dressed up as grasshoppers; some believe that I have a troupe of trained grasshoppers; others declare that the pictures are first drawn with a pencil and then photo-

graphed. All these conjectures are wrong. If I were to dress up men and women as grasshoppers and appear on the streets with them I am sure that I would soon be taking my meals at the nearest institution for the feeble-minded, because the public would not stand for that sort of foolishness. As for training grasshoppers, let anyone try it and he will soon realize the impossibility of it. It is true that clever men have trained flies and fleas to perform all sorts of acrobatic feats, but I doubt that anything could be done with a grasshopper. He is too full of vim and mischief. As for drawing the pictures, no artist can make a picture so skillfully that it cannot be distinguished from a photograph.

No, my grasshoppers are of the ordinary garden-variety, unschooled and unskilled in the ways of a wicked world. I capture them as I need them; then put them to sleep with chloroform, after which it is an easy matter to prop them up with concealed wires. The chloroform has to be administered carefully. If too much of it is given, the grasshopper dies and turns a bright red color, which photographs badly; if too little is given, the insect wakes up just as the photographer is making his exposure, and when this happens the creature never fails to wave its little antennae as if to say, "here's where I spoil your plate for your impudence." A good way to administer the chloroform is to moisten a pellet of cotton with a few drops and drop it into a small drinking-glass. The insect is next dropped in and an old discarded dry-



THE HIGH JUMP
THE TRUMPETER
LEHMAN WENDELL



THE AUTOISTS
AN OLD-FASHIONED GAME
LEHMAN WENDELL

plate placed over the glass. This seals it so that the drug cannot evaporate, and in about five minutes the grasshopper will be sound asleep and snoring peacefully. This is the psychological moment, and the insect must be taken out, posed and photographed.

To put an insect to sleep with chloroform, in order to photograph it, must seem to many a cruelty to animals, and I want to say right here that I am as averse to cruelty to animals as anyone. I love all creatures, perhaps more than the average man; but as for giving them chloroform I have found that if it is administered correctly it does not harm the insect in the least and Mr. Grasshopper will soon be as frisky as ever.

My foregrounds usually consist of some species of moss, many varieties of which can be found in damp woods. To use turf would be out of the question because a blade of grass is taller than a grasshopper. What we wish is something that will simulate grass and be in proportion to the insect. For foregrounds, I use whatever happens to be within reach, broadly speaking. A white cardboard placed behind the insects gives the effect of a clear sky. If I wish clouds in a picture, I use a 10 x 12 enlargement from a cloud-negative and this I stand behind the insects. I wish to add that the cloud-backgrounds which I employed in the pictures that accompany this article were chosen hurriedly and are very poor, except, perhaps, in one instance; but the idea is all right. For a black background any dark garment will do, provided that it is placed far enough away to be out of focus. This prevents the weave of the cloth from showing. Thus, in one instance, a pair of black trousers hung over the back of a chair, some distance behind the insects, made an excellent background. The fact of the matter is that almost anything can be made to serve as a background. If I did my work in a lady's room, I suppose that any bit of dainty lingerie would serve the purpose, and such pictorial camouflage would be quite acceptable to the unsuspecting public, as long as I could keep the secret to myself.

My pictures are staged and photographed indoors. It would be impossible to do the work in the open, where the slightest breath of air would be sufficient to upset one's whole scheme of arrangement.

My camera is an imported instrument—and, sh! let me whisper it, it came from Germany. But it was bought before the war, so the staunchest patriot has no right to point an accusing finger at poor me. My camera is a small plate-camera of the focusing-type, so that I can compose every picture upon the ground-glass and know just what I am going to get. The bellows is

unusually long; and when it is fully extended, I can bring an object into sharp focus if it is only four inches away. Most of my pictures are made at a distance of about two feet and, by employing the smallest stop, all planes of the picture can be brought into reasonably sharp focus.

I use plates invariably, and develop by the tank-method, because this gives me negatives which are ideal for enlarging. My negatives measure only $2\frac{1}{2}$ x $3\frac{1}{2}$ inches and my finished print is therefore an enlargement, usually a 5 x 7. I have tried various kinds of plates—Hammer's, Cramer's and Panchromatic. I have had equal success with all; but as the panchromatic plates are harder to handle than the others, I have eliminated these all-color sensitive plates. For certain work, a panchromatic plate is an absolute necessity; but I find that my work does not require a fully-corrected plate because I am dealing with virtually no reds. I use Contrast Enlarging Cyko paper. Pictures such as mine should combine detail with brilliancy, and Cyko gives just the desired effect. Bromide paper is useless for this class of work, as it is difficult to get rich blacks with that class of paper.

In order to make my methods perfectly clear, let me explain in detail just how I produced some of my pictures. Take for instance the picture of the two grasshoppers swinging. The foreground, as can readily be seen, consists of a small piece of moss. It was chosen with special care. I wanted something that would give the effect of a hill-top; hence the curved outline. Then it occurred to me that if I could show some interesting formations against the white cloud-bank it would greatly enhance the picture, so I chose a piece of moss which had already begun to seed, and these tiny seed-pods silhouetted against the sky add not a little to the interest of the picture. The tree is nothing more than a small twig, and this, also, had to be chosen very carefully. Dozens of twigs were picked up and discarded before one was found which would resemble, at all, a dead tree. The background is a 10 x 12 enlargement made from a cloud-negative taken for that purpose. The white clouds which rise above the hill-top are not horizon-clouds, and for that reason may be condemned at first glance; but in this particular instance they should not be horizon-clouds because, if they were, we would gain the impression that the hill is a very low one, whereas by employing lofty clouds so low down we feel that the hill is a very high one and that we are standing on the slope of the hill and looking upward. The inclination of the swing will undoubtedly puzzle many. How was it obtained? The entire landscape was tilted, al-



HAVING A SWING

LEHMAN WENDELL

lowing the swing to hang perpendicularly, and the camera was tilted to correspond with the landscape. The finished picture, therefore, shows us the swing in motion. The bend in the swing is due to the weight of the insect. It might be well to add here that a fast plate was used and that an exposure of thirty-five seconds was given at F/36, near a west window, at 3 p.m., August. All the other pictures were made with similar plates and under similar conditions, so that it will be needless to repeat.

"The Trumpeter." The dragon-fly is an ugly-looking creature, at best, and with proper setting would make a very weird picture. The moss was therefore chosen with care so as to harmonize with the rest, and the two tiny toad-stools were placed in the moss to add to the weirdness. The trumpet is the pistil of a flower.

"An Old-fashioned Game." The foreground is an ordinary gray card-mount, which gives about the effect we want. The arches are made of fine copper-wire thrust into the card-board. The stake is a short stalk of hay slipped over a small wire which was previously forced into

the cardboard. The balls are mustard seeds and the mallets are made from tiny sections of a rose-bush twig, into which slender stalks of hay were inserted.

"The Autoists." The automobile is a cut-out taken from a magazine-advertisement. It would, of course, be impossible to cut out around the slender supports which hold up the top of the machine, and so this paper was left as it was, and the background was then shifted until the white cloud blended with the white paper of the automobile. The two palm-trees are parts of a species of wild grass which grows abundantly in the fields.

"The High Jump." There is only one thing in connection with this picture which needs to be mentioned, and that is the manner in which the grasshopper was suspended in the air. This was done by means of a concealed wire which was thrust into the background—a white card-board—and then attached to the grasshopper.

"The Old Swimming-Hole." This was staged in a pan of water. The water was poured into the pan until it was ready to overflow. How-



THE OLD SWIMMING-HOLE

LEHMAN WENDELL

ever, at the left side the edge of the pan showed slightly as a dark streak and this was etched away on the negative and made to resemble trees in the distance. The spring-board was made from a small piece of a wooden strawberry box; the two uprights which support the board are pieces of straw.

This, I think, will suffice to show how my pictures were made and I am sure that those who are interested in this branch of photography can easily make pictures quite as interesting as mine. In conclusion, I want to add just a word of warning. I have seen a number of

pictures which somewhat resemble mine; but instead of using backgrounds which will harmonize with the rest of the picture the photographer in question draws a background with pen and ink and then poses his insects against this. This is extremely bad from an artistic point of view. We may combine pictures all we please so long as the finished print appears to have been made solely with the camera; but the moment a photograph shows that it is fifty per cent camera-work and fifty per cent pen-and-ink work it becomes artificial at once and is neither a photograph nor a drawing.

Practical and Humorous Experiences in Photography

Part IV. Flashlight-Photography

A. H. BEARDSLEY



HERE is something peculiarly fascinating and uplifting about flashlight photography. Its similarity to a fireworks-display adds zest and interest. The modern equipment comprises flash-bags to catch the smoke, diffusing-screens to shield the sitter's eyes and other convenient and effective accessories. In most cases, electricity has supplanted the match or percussion-cap to ignite the flashpowder. In addition, there are devices which open the shutter and set off the flash at the same instant. Without a doubt, all these modern improvements have been responsible for the ever increasing prosperity of good professional flashlight-photographers. However, the older method of flashlight-photography had greater interest for sitters and photographers alike—particularly if the photographer happened to be an amateur of average skill.

A case in point was a "party" I attended at a friend's house, some years ago. Among other things, my friend considered himself to be a very fair amateur photographer. Although he admitted frankly enough that he had never made a flashlight-picture in his life, he insisted that whenever the occasion arose, he could make one successfully and with entire satisfaction to all concerned. Unfortunately for us, my friend considered this particular "party"—to which he had invited a dozen or more friends—as the long-awaited "occasion." My friend—let us

call him "Tom"—possessed a plate-camera of ancient but reliable vintage with which he did very creditable work *by daylight*. What he could do with it by artificial or flash-light, we were to learn without delay.

At the very moment in the evening's entertainment when we were having the best time, Tom announced that he wished to make a few flashlight-pictures of our happy faces. Outwardly, we received his announcement with hearty approval, but inwardly we feared silently that which was about to happen. With forced laughter and silly repartee, we grouped ourselves round a large old rubber-plant. Tom asked one row of guests to squat Indian fashion on the floor. Those of us who were too stout "to squat" were placed in chairs, and the tall, lean ones stood behind with their hands resting affectionately on the shoulders of those in front. Tom had not yet accepted the advanced idea of having a room well lighted when making flashlight-pictures. In consequence, we stood, sat and squatted an interminable time in utter darkness. As the seconds grew into minutes, we became restive; we poked our neighbors; we snickered over nothing and grew more nervous every moment. In the midst of our attempt to make the best of an unpleasant situation—bang, went Tom's flashpowder, nearly paralyzing us with uncontrollable fright.

Still enveloped in utter darkness and the choking fumes of the flashpowder, we endeavored

to compose ourselves while Tom arranged his camera for another picture. Some of the ladies were frightened so badly that they positively refused to sit for another picture unless Tom promised to count one-two-three, slowly and distinctly, before he set off the flashpowder. All felt relieved when Tom promised gladly and considerately. However, by the time he counted two, we were all so nervous that count three found us staring wild-eyed into the darkness. There was a click, but no flash. Then came another click, but no flash. Next we heard some muffled remarks from Tom speaking fluently to himself. We stood, sat and squatted again in utter darkness, waiting for something to happen. Just as we began to breathe more easily and to take a renewed interest in life, Tom announced that he had inadvertently omitted inserting the necessary percussion-cap in the flashlamp, but that everything was ready again. Once more he counted "one-two-three" in sepulchral tones and we nerved ourselves to meet the ordeal. This time it worked splendidly—according to Tom. We sat very still after the flash, while he fumbled with the camera. Suddenly those nearest to Tom heard him mention a word not listed in the latest unabridged dictionary. After more fumbling, he announced that he had forgotten to draw the slide from the plateholder, and that, therefore, the last picture was a blank.

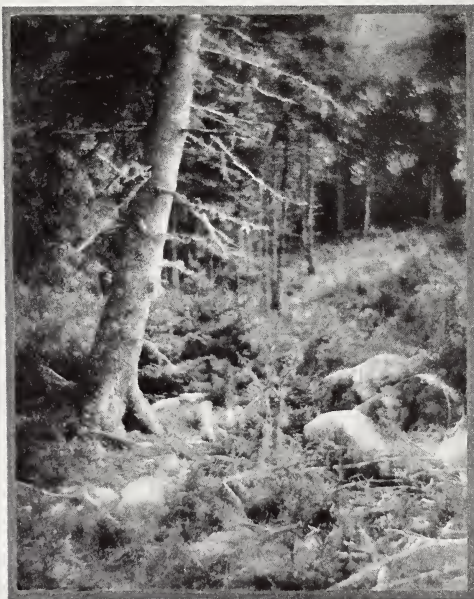
Most of us—remembering what a good time we were having before Tom began to make flashlight-pictures of "our happy faces"—grew increasingly restive. To say the least, sitting in total darkness, broken at intervals by blinding flashes of piercing actinic light and being "gassed" by noxious fumes of flashpowder controlled by one in whom we had no confidence, was not as "entertaining" as it might be. Nevertheless, we yielded to Tom's pleading and grimly faced another exposure. By this time, all of us were pretty well hardened and we stared in the direction of the camera with courage and desperation. Nothing appeared to mar the third attempt. No one, who was not there on that memorable evening, can appreciate with what relief we saw Tom finally light the gas. We looked at one another half expecting to see blackened faces, burned clothes and even disfigurement. Fortunately, we were all intact although somewhat pale and haggard. Tom's newly calcimined ceiling had suffered severely from each flash, due to his holding the flashlamp too high. A semi-volcanic dust lay on draperies, chairs, and tables—also on us. Those guests who were nearest the windows opened them hurriedly and leaned out as far as possible for air.

The room was filled to suffocation with heavy throat-irritating smoke. On the street several friends and neighbors watched the proceedings anxiously in the vain attempt to decide whether or not to ring the fire-alarm, call the police or get out of harm's way before we blew out through the roof singly or in groups.

To make a long story short, the net result—photographically—of the "party" at Tom's house comprised two pictures. One displayed a scene which, in its abandon, resembled the wild revels of habitués of the Bohemian quarter; the other appeared to be a group of mourners buried in a London fog. This latter effect was produced by the heavy smoke which hung in the room from the two preceding flashlight exposures. If Tom derives any enjoyment from looking at such photographs of his "happy" guests, he is welcome to it. None of us would begrudge him the pleasure. However, one thing that Tom failed to understand was the reason that none of his guests asked for one or both of the flashlight-pictures which he valued so highly and took such pleasure to make.

Modern flashlight-photography is simple, clean and a source of much pleasure to the camerist when he cannot utilize daylight conveniently. Pictures of the family, friends, pets and attractive interiors may be made easily and with very satisfactory results. The average amateur will find that the Eastman Flash-Sheet and Holder is the most simple, convenient and effective method. Of course, the more ambitious amateur will find many excellent flashlamps, flash-bags and other flashlight-equipments suited to his purse and requirements. Without in any way disparaging the latest equipments, I have often attempted to surpass an impromptu flashlight-group I made, some time ago, with an ordinary flash-cartridge held aloft on a dustpan and ignited with a match. No doubt, conditions were in my favor; but for illumination, detail and technical value, I have never made a better one even with an electric flash-bag and diffusing-screen. All of which goes to prove that excellent flashlight-photography may be done with any standard equipment that is handled properly and is suited to the work in hand. In conclusion, let me say that the utmost caution must be employed at all times; and, although there is virtually no danger, it is best to follow directions explicitly even though the camerist and his house are covered by insurance. The danger to others should be enough to compel the greatest caution at all times. With this point well in mind, the amateur may make flashlight-pictures safely and with pleasure to himself, family and friends.

(To be continued)



R.E.
V.
1918

Courtesy of American Annual of Photography



A NOVA SCOTIA FOREST
RUDOLF EICKEMEYER

A Meter in Mind

FREDERICK C. DAVIS



UDGING from the experience of many camera-users, it would seem that no two exposure-meters on the market agree. Under identical conditions, one meter will require a different exposure than another. The result is confusion as to the length of the proper exposure, and when a photographer tries to use several meters, the subject is sometimes not exposed to the best advantage. The proper way to carry out the idea of an exposure-meter, is to select one meter and to stick to it.

Those of you who read my article on stopping motion in March PHOTO-ERA and used the simplified system which I outlined, will be eager to note if any similar system could be worked out to make the finding of the correct exposure a simple and certain matter. I have outlined a system which is exceedingly simple to use, which requires no meter that may be lost or forgotten, but which gives just as good results as any meter—and I have used them all.

It is remarkable how many factors have been presented to determine the exposure. They are: light on the subject, color of subject, stop used, time of day, month of year, latitude, emulsion- or plate-speed, angle of sun, motion of subject, clouds, filter or screen used, auxiliary lens used, danger of halation, and reflectability of subject. The use of all these in every exposure figured is unnecessary. There are cases in which each and every one of them may be used, but never a case when all could possibly be of service. There are in that long list, only three which are of an appreciable degree of importance, and only two which should be added to the three. Those three are, light on subject, stop used, and the nature of the subject. The two which will also be used are, emulsion-speed and latitude.

Perhaps you might insist on the time of day, angle of sun, and a few others. But I defy an expert to show me the difference between two photographs made under identically the same conditions, one at ten o'clock and the other at noon—except, of course, for the difference in the angle of the shadows. The angle of the sun may be taken care of by considering the light it gives off at that certain angle. For instance, if the sun is low, classify the light as faint sunlight; and in figuring out the exposure, it will lengthen accordingly. If the sun is very low, classify the light as bright cloudy. You may well be told now, that my system consists of three small tables, which will stay in your memory, and by

selecting certain factors for certain conditions, and multiplying these together, the correct exposure is found. It is very simple.

The first table is a very short, easy one, and consists of tabulating the degrees of light. Light may be divided, for photographic purposes, into six classes, namely, intense sun, bright sun, faint sun, bright cloudy, dull cloudy, and very dull cloudy. These six we shall use in our table. Each will be given a small factor, so that the table will stand thus:

Intense Sun.....	6
Bright Sun.....	3
Faint Sun.....	2
Bright Cloudy.....	1
Dull Cloudy.....	1
	—
	2
Very Dull Cloudy.....	1
	—
	4

The number placed opposite the light is the factor. This will later be used in conjunction with two other factors, one for the stop, and one for subject.

Here is a curious fact: the smaller the stop, the longer the exposure, the larger the stop number the shorter the exposure. But this cannot be used to advantage; in fact, the curious coincidence is exactly opposite to that which should be used in this system. We shall therefore originate a stop-system of our own, which will be very easy, because it is exactly the opposite of the U. S. System.

The U. S. and the F systems compare thus:

F numbers.....	4	5.6	8	11.3	16	22.6	32	45.2
U. S. numbers ..	1	2	4	8	16	32	64	128

We shall, however, consider only five stops, those most used, namely U. S. Stops 2, 4, 8, 16, 32 and F Stops 5.6, 8, 11.3, 16, 22.6. The stop-table runs like this, exactly opposite to the regular U. S. System:

F Stop	U. S. Stop	Factor
22.6	32	1
16	16	2
11.3	8	4
8	4	8
5.6	2	16
4	1	32

We now have two tables to use. We have, therefore, canceled two of the factors which enter into the computation of correct exposure, namely, light and stop. We have yet to consider the subject. The nature of the subject is what will distinguish it in the tables. I have divided the subject into eight classes. Each



MAY ALLISON IN "IN FOR THIRTY DAYS"

METRO FILM CORPORATION

class, as in the light- and stop-tables, is given a factor. These are the subject-divisions:

Marine-scene; open water-views; clouds; factor,	20
Snow only; glaciers; airplanes, etc.; bright views,	10
Snow, with small dark objects; boats in the water;	
boats away from dock; beach-subjects; light	
foregrounds; no heavy shadows; distant land-	5
scapes.....	
Portraits in open; landscapes with near subjects;	
docks; races; white buildings; light scenes; no	
heavy shadows.....	2
Streets, dark buildings, well-lighted porches.....	1
Near subjects with near dark backgrounds; like	
foliage; any subject, street or building, partly	
in shade.....	1/2
Subject in heavy shade; the north wall of a build-	
ing; in a group of scattered trees; dark porches;	
very well-lighted rooms.....	1/3
In heavy woods, camp-scenes; in shade on dark	
streets; between high buildings.....	1/10

Of course, this classification is given as an aid, so that any subject which is to be photographed can be classified, and thus this table can be used as a guide to the proper selection of factor. The three factors are now given; the simplicity of them will appeal to you. Their use is equally simple; classify your subject, stop, and light, in terms of factors, multiply and invert, and you have the exposure.

A few examples will illustrate. Let us suppose that you wish to make a photograph of a person standing on a porch, with the sun shining

behind semi-transparent clouds. You decide to use stop 16, either U. S. or F—they are the same in this case. The light is classified as faint sun. The factor for the light is 2. The stop-factor is 2. Multiplying, we have 4. The subject-factor is 1. The result of the last multiplication (4×1) is 4. Invert, and we have one-fourth. One-fourth second is the proper exposure in these circumstances.

Another example; Let us suppose that it is desired to photograph an airplane, skimming above us. Cloudy; Stop 8, U. S. Light-factor, 1; Stop-factor, 4 (result, 4); subject-factor, 10, result, 40. Invert, and we have one-fortieth second. My meter says one-fiftieth, and, as my shutter is not graduated for such fine divisions, I am compelled to give one-fiftieth second. Give the nearest speed on your shutter.

Now we must consider emulsion-speed and latitude. They may be disposed of quickly; for latitude: if far south, give one-half of the exposure, if far north, twice the exposure. The exposures given are for a central belt running through the United States.

Considering emulsion-speed; the exposures given are for an emulsion-speed of one-half. If your emulsion-speed is one, give an exposure twice as long; if your speed is one-fourth, give one-half as long, and so on. All ordinary films have a speed of one-half, and most plates also.

The After-Treatment of Bromides



WHEN a bromide print or enlargement is not entirely satisfactory in quality, usually the best course is to make another; but at the present prices of materials this is not always desirable. Moreover, the print in question may be the best which it is possible to obtain from the negative, and it becomes necessary to do what we can in such circumstances to make the best of what we have.

When a print has a flat, foggy appearance, a slight general reduction will often effect a great improvement, and for this purpose nothing is better than a very weak solution of iodine, which is poured over the wet print and allowed to act until the highlights turn to a dark blue with a slight yellowing of the finer details of the image. This indicates the formation of iodide of silver, which is dissolved, after rinsing, in an ordinary fixing-bath. As the iodide of silver is less soluble than the bromide, it is very necessary to give sufficient time in the hypo so as to make certain that no further change is likely to take place. The iodine solution is made by putting half an ounce of iodine in a ten-ounce stoppered bottle, covering it with water and adding crystals of iodide of potassium till solution is complete. This gives a deep brown liquid, of which sufficient is mixed with water to give a rather deep sherry color. It should be used at once, as the solution becomes inert on standing. After washing well from the hypo, the image is capable of intensification by any of the methods described later. A method which is preferred by many workers is to use a mixture of iodine and cyanide of potassium, which effects the reduction in one step instead of two, and has the great advantage of allowing local reduction to be done with great facility. Indeed, it is quite possible to remove entirely any unwanted portions of the image, even to the extent of turning a solid print into a vignette, heavy skies may be lightened, lights put in upon buildings or foregrounds, and the solid black edges sometimes seen through neglect to mask the negative may be removed entirely without leaving a trace. A very moderate amount of washing, less than is required after fixing, is sufficient after this treatment. It must always be remembered that the solution is very poisonous, and due precautions should be taken. Much may be done in the way of cleaning up and local reduction by using the well-known ferricyanide and hypo reducer; but this sometimes leaves a faint yellowish image after the black one has disappeared. It is, however, very useful, and, of

course, quite safe in use. When reducing locally, it is advisable to support the print on a glass slab or the back of a dish close to a running tap, so that the print can be rinsed frequently to prevent hard edges being caused by the action of the solution. A common defect in bromide prints is the appearance of a rusty-looking black, which is due usually to overexposure and short development, or sometimes when there has been correct exposure, to the use of an exhausted developing-solution. This may be remedied in two ways, either by intensification with the chromium process or by gold-toning. The former is preferable, as not only is it cheaper but such prints are usually benefited by the increased contrast which results. When little intensification is needed, the following formula should be used:—potassium bichromate, 100 grains; pure hydrochloric acid, 50 minims; water, 10 ounces. The print will bleach rapidly in this solution, and will appear much as it would if the ordinary ferricyanide and bromide bleacher were used, except that the white parts will be stained a bright yellow. This will disappear with thorough washing, after which the image is re-developed with amidol, when it will change to a pure black color with a slight increase of contrast. Prints so treated are quite permanent, but are not suitable for sepia-toning. Another way to cure rusty blacks is to immerse the print in an ordinary gold and sulphocyanide toning-bath, as used for printing-out paper. In this the blacks become gradually colder in tone and, if left in too long, will turn to a slaty blue. The prints should be washed well, but require no fixing. In order to appreciate the change made by either of these methods, it is a good plan to cut an old print into halves and to treat one half only; when the two are compared, the difference will be clearly seen.

For press-work, where permanency is of no moment, weak prints may be intensified with the ordinary mercury and ammonia solutions, which give greatly increased depth and a good brownish black. More permanency can be obtained by blackening with the ferrous oxalate or amidol developers; but no reliance can be placed upon any image that contains mercury.

As we have referred to the gold-sulphocyanide toning-bath for pure blacks on black and white prints, it may be well to point out that its action is very different from those which have been sulphide-toned; with such, a good red-chalk color is easily obtained by simple immersion for the requisite time, followed by fixation in a carefully prepared plain hypo solution.



CARLO

WILLIAM E. NEUSER

It may be required to reduce the strength of an overdeveloped print from a hard negative, and for this the chromium intensifier will be found very useful. The procedure is to bleach and wash as usual, but to develop only to the desired depth, finishing by a second fixing to remove the unreduced silver haloid which had not been required to form the second image. It is hardly necessary, perhaps, to point out that all the operations we have mentioned may be conducted by gas or electric light, or in weak daylight.

Stress or abrasion markings are very common on some makes of bromide paper, and sometimes are difficult to move by the ordinary method of friction, either with a wad of cotton while wet, or a soft rag and methylated spirit when dry. In such cases, they would be found to yield quickly to a very dilute ferricyanide and hypo solution, or a very weak iodine-cyanide reducer. Stress markings may be avoided, to

a great extent, by adding 3 or 4 minims of a 10 per cent solution of iodide of potassium to each ounce of developer. This addition tends to reduce contrast in the prints, and should not be made when thin negatives are being used. The general chemical fog caused by excessively prolonged development is treated best with weak iodine-cyanide solution, taking care to stop the action before the image itself is attacked. With a very weak solution, which will quickly clear off the developer fog, it takes a considerable time to make any appreciable effect upon the image.—*British Journal*.



Of all the unblest joys in life, the very keenest one is standing in the lime-light with your rivals looking on.—*Elizabeth Chase*.



The City

GEORGE STEELE SEYMOUR

THE glint of the sun on the streets of the city,
The surge of the throng, with its rumble and
roar.

The motor and cars rushing on without pity,
Their myriad wheels turning on evermore.

Oh, sweeter to me than the haunts of the wild-
wood,

The old city smiles with a charm ever new—
"How dear to this heart are the scenes of my
childhood

When fond recollection presents them to view!"

How dear to this heart are the close-pressing
houses!

How dear are the streets, with their clamor and
strife!

The broad-breasted river, the ship-crested river;
Its bosom a-quiver with warm, throbbing life!

Oh, not for an eon of ease in the wildwood
I'd give up one day, old Manhattan, of you!
"How dear to this heart are the scenes of my
childhood

When fond recollection presents them to view!"

And he who extolled thee, thou Casket of Glad-
ness,

He dwelt where the city crowds down to the
sea;

She cheered him in sorrow, consoled him in sad-
ness,

And crowned with her favor his anthem of thee.
Oh, lost to the world were that voice in the wild-
wood,

That cry evermore of the heart that is true;
"How dear to this heart are the scenes of my
childhood

When fond recollection presents them to view!"



EDITORIAL



A Novel Scrap-Book and Guide

ONE of the greatest sources of gratification to the Editor is letters from subscribers that contain spontaneous and, let us say, merited praise of his publication. Although most of these friends include the entire magazine in their expression of approbation, there are some who emphasize favorably one particular feature—the illustrations, the text, the monthly competitions or the advertising-policy. Not a few subscribers declare that they derive much practical benefit from the department, “Our Illustrations,” and anticipate eagerly the appearance of each succeeding issue of the magazine. One of these eminently satisfied subscribers is Mr. H. W. Child, of Boston. Indeed, appreciating the practical value of “Our Illustrations,” he has converted this monthly feature of PHOTO-ERA into a ready means of reference, which enables him to improve his work both technically and artistically. He contends that the valuable information and helpful criticism afforded by this department should not be read and forgotten, but arranged by the really progressive worker in some permanent form for study and reference. Mr. Child suggests a suitable scrap-album, into which should be pasted reproductions of landscapes, portraits, genres, marines or nature-studies cut from the pages of PHOTO-ERA and, under each picture, the corresponding criticism and data also clipped from the magazine. In a short time, the camerist will have a collection of pictures and technical data that will be of great assistance to him in his photographic work. For example, if the camerist intends to make a still-life—a subject quite new to him—he will turn to the department in his scrap-book devoted to still-life, study the pictures with regard to composition and treatment, and consult the data with reference to length of exposure, choice of materials and chemical operations. If the camerist maintain such a pictorial reference-book in a systematic way, and consult it faithfully, he will improve his work to a marked degree.

He cannot go far astray in an effort to produce good pictures, and technical lapses will become things of the past. In time, the camerist's scrap-book will rise to the dignity of an album and become a source of interest not only to visiting brother-workers, but to friends that are not photographers, but merely picture-

lovers. By and by interested workers, unable to borrow our camerist's indispensable reference-book, will form their own and profit by its advantages. As to copies of PHOTO-ERA thus damaged, of necessity, they should be replaced at once, if the subscribers desire to keep their files intact. The trifling expense involved is more than compensated by the benefit derived in forming and maintaining this pictorial scrap-book, which will increase in value as time goes on.

Photo-Era is Waiting for You!

AS the May issue was particularly interesting and attractive, there must have been many disappointed readers who were unable to obtain copies from their dealers. The Publisher regrets this exceedingly; but the fault lies entirely with certain dealers who failed to obtain their usual supply of PHOTO-ERA copies, because they did not comply with the new terms of sale, according to which PHOTO-ERA is no longer returnable. Hitherto, most dealers received each month a certain number of copies on sale and, under that agreement, could return unsold copies that were not more than three months old.

PHOTO-ERA is obviously an expensive magazine to produce and, to maintain such a policy at the present time, would be ruinous to the Publisher. PHOTO-ERA long ago reached an enviable position among photographic periodicals, making it a virtual necessity—at least good business-judgment—for dealers to carry the magazine in stock, regularly. Indeed, the recent subscription-season has been the most successful and the most profitable that PHOTO-ERA has known for many years, and it is, therefore, time that PHOTO-ERA should be sold by dealers like any other photographic commodity that is purchased outright and stocked.

The Publisher is happy to state that almost every progressive photographic dealer, throughout this country, Canada and other parts of the world, has arranged to carry an adequate supply of PHOTO-ERA copies regularly each month, on the non-returnable basis. Unfortunately, there are a few exceptions, and at such stores PHOTO-ERA readers, who are not regular subscribers, will be disappointed. It rests with the readers to bring the matter home to their respective dealers or, failing to do this, to send their subscriptions at once and direct to PHOTO-ERA.



ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.



Prizes

First Prize: Value \$10.00.

Second Prize: Value \$5.00.

Third Prize: Value \$2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, **but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.** Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.*

4. *Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print exactly for what competition it is intended.*

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with double thicknesses of **stiff corrugated board, not the flexible kind—or with thin wood-veneer.** Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—The Spirit of Winter Competition Closed March 31, 1919

First Prize: John W. Newton.

Second Prize: Ralph H. Blohm.

Third Prize: Alexander Murray.

Honorable Mention: Charles M. De Bevoise; John Dove; A. W. Dreyer; Alexander Du Bois; F. L. Evans; Wm. H. Firich; G. W. French; Gustave Glueckert; Marjorie Goble; Ralph R. Hall; E. J. Koester; William Ludlum; P. McAdam; G. H. McKelway; Emmett L. Miller; Louis R. Murray; Robert P. Nute; L. A. Olsen; A. D. Page; Maude Paget; W. H. C. Pillsbury; Dr. C. B. Piper; S. Alton Ralph; H. B. Rudolph; J. Herbert Saunders; G. H. Seelig; Kenneth D. Smith; E. P. Walsh; C. B. Weed; B. W. White; A. S. Workman.

Subjects for Competition—1919

"Miscellaneous." Closes May 31.

"The Spirit of Spring." Closes June 30.

"Rural Scenes." Closes July 31.

"Shore-Scenes." Closes August 31.

"Outdoor-Genres." Closes September 30.

"Architectural Subjects." Closes October 31.

"Domestic Pets." Closes November 30.

"Indoor-Genres." Closes December 31.

1920

"The Spirit of Christmas." Closes January 31.

"Still-Life." Closes February 28.

"The Spirit of Winter." Closes March 31.

"Rainy-Day Pictures." Closes April 30.



Photo-Era Prize-Cup

IN deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize (\$10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.



THE American soldiers in France have taken territory and hold it. The American people at home having taken Liberty Bonds should hold them. This is not only patriotic, but it is very sound finance.



THE BEAUTIFUL SNOW

JOHN W. NEWTON

FIRST PRIZE—THE SPIRIT OF WINTER

How Distance Affects the Strength of Light

THE strength of light is always an interesting topic, to the photographer. A recent issue of *Kodakery* contains some very helpful information.

When light emanates from a single point its strength, or brilliancy, at any distance from its source varies as the square of the distance.

For practical purposes we may consider a single light-source, whether it be an oil, a gas or an electric lamp, as a point source of light, and when we use a single lamp for making prints from a negative we will find that, should the exposure needed for obtaining a correctly printed print be 10 seconds, when the printing-frame is placed 10 inches from the light, at 30 inches, which is 3 times as far as 10 inches, the exposure required will be 3×3 or 9 times as long as at 10 inches. This will be 90 seconds.

If placed at 15 inches, which is $1\frac{1}{2}$ times 10 inches, the exposure will be $1\frac{1}{2} \times 1\frac{1}{2}$ or $2\frac{1}{4}$ times what was needed at 10 inches, or $2\frac{1}{4}$ times 10 seconds, which is 22 $\frac{1}{2}$ seconds.

If placed at 5 inches from the light—this being $\frac{1}{2}$ of 10 inches—the exposure required will be $\frac{1}{2} \times \frac{1}{2}$ or $\frac{1}{4}$ the exposure needed at 10 inches. This will be $\frac{1}{4}$ of 10 seconds, or 2 $\frac{1}{2}$ seconds.

Experience has proved that a sufficiently uniform

illumination of the negative, which will avoid overprinting the center before the edges of the negative are correctly printed, can be obtained by placing the negative not closer than the length of its diagonal from the printing-light. If the length of time it takes to print at this distance has been determined, and if at this distance the printing proceeds too rapidly or too slowly, the length of time to print at any other distance from the light can be quickly calculated by the rule we have stated.

Drying-Marks

IN a recent issue of *The Amateur Photographer* appears an interesting note with regard to marks left on a negative by a drop of clean water. Every amateur at some time or another has met these annoying defects: or has splashed a negative with drops of perfectly clean water only to find that, when the water dries out, an indelible mark is left behind. Dr. Mees has put forward the following explanation of the phenomenon. According to him, the gelatine, which swells up where the drop of water falls on it, has a strain produced in it as the water dries out, by the collapse of the center of the swollen spot. The result of this strain is that the gelatine and silver-grains are pulled towards the edges of the spot, and so produce a dark



A WINTER-ROAD

RALPH H. BLOHM

SECOND PRIZE—THE SPIRIT OF WINTER

ring there. The structure of gelatine may be assumed to be something like that of a sponge. If a cube of gelatine, he observes, is cut out of a sheet which was dried originally in a horizontal position, that cube when placed in water will not swell in all directions and so become a bigger cube, but will swell almost entirely in the direction in which it was dried down, so as to take the form of an elongated cube. Unfortunately for the photographer, although it is something to know what happens, the explanation does not suggest any remedy for the defect when once it has occurred; and the only moral to be drawn at present is to take great care to avoid such marks.

Supplementary Flashlight

THE advantages of the flashlight are not always made use of by photographers. *The British Journal* calls attention to this fact, editorially.

Photographers as a whole are not fully aware of the advantages that flashlight has to offer as a supplementary illuminant when making exposures under difficult conditions. It sometimes happens that a certain amount of day or artificial light is available by which the exposure has to be made—that is, insufficient of itself to light certain parts of the subject sufficiently for them to be fully exposed before the more brilliantly illuminated parts were hopelessly overexposed. It is under conditions like these that the flash-lamp, which need only be of a simple form, or which may even be dispensed with if the prepared powder is employed, becomes of real assistance in solving the difficulty. We may, in explanation, cite an instance of this which occurred in our own work some years ago. The

subject was an interior of an ancient abbey, the building badly lighted through stained-glass windows, two of which were directly facing the camera. The details of these windows, which were, of course, fairly well illuminated, were required in the negative together with a good rendering of some dark oak choir-stalls in the foreground which were very badly illuminated indeed. A plate was exposed by meter for the windows, and just before this period was complete a strong flash was fired, sufficient to illuminate the whole of the interior. Careful development produced a negative that was "just right" for its purpose. The flash should be fired almost at the end of the exposure; if this is done before, there is a tendency for the smoke from the flash to cause a belt over the picture. The above indicates some simple means to overcome difficulties due to bad illumination, and may be noted by commercial photographers who often are expected to produce first-class results under very unfavorable conditions of lighting. Some may be inclined to adopt the usual reflector and diffuser in connection with the flash, but though this may at times be desirable when dealing with very irregular lightings, we prefer to increase the flash in strength and keep further away from the subject if the building will admit.

Profitable Photography

A WOMAN in a Western city was a good amateur photographer, averaging sixty dollars a month profit from photographing babies and young children in their own homes. This woman started out by obtaining patrons among her neighbors and friends. She agreed to go to their homes once a month and photograph the

THIRD PRIZE

THE SPIRIT OF WINTER



WINTER'S CHARM FOR YOUNGSTERS

ALEXANDER MURRAY

baby—or the young children in a group—the idea being to furnish a record of development from month to month and year to year. She agreed to furnish two unmounted prints, suitable for an album, for 1 dollar a month.

The advantages of this plan were obvious. The children were perfectly natural, because they were snapped while playing with their own toys in their own homes, and the family obtained photographs without the inconvenience of transporting to a gallery their beruffled, beribboned, screaming and kicking darlings.

The plan worked so well that the photographer began to follow up the parents of every new baby in town. She obtained names and addresses from the birth-records. Owing to the vulnerability of parental human nature, she often sold extra prints to be sent to admiring relatives and nearly always sold an album, on which she made a profit.

The patronage of one hundred families each month was her final record! At this stage of her business she was compelled to contract with a professional to do her photo-finishing. When she married, she sold out her business to this man, who ran it as a side-line in connection with his studio.—*New York Tribune.*

Photomicrographic Triumphs

THE wonders of photomicrography have been brought home lately to members of the Camera Club, not only by the excellent exhibition of prints on the walls, but also on the lantern-screen. The Photomicrographic Society, a very successful body, was the mover in both instances. Dr. Rodman, the president, gave an account of the technique he himself follows. His simplest arrangement is to use a microscope of small proportions, aligned with the beam from a Nernst lamp and the ordinary bull's-eye condensing-lens, and to fit the eyepiece of the microscope in a central hole in a piece of card or three-ply wood, which is substituted for the lens board of the camera. He finds that as an illuminant an ordinary filament lamp of the Mazda type serves his purpose best, and generally it should not be of too high a candle-power—not higher than 25. The idea is so to obscure the lamp as to obtain just a brilliant button of illumination. To get depth of focus he cuts down his aperture to an extent which just falls short of giving him diffraction effects, although, of course, this involves correspondingly long exposures.

The Amateur Photographer.



SUBJECT FOR NEXT COMPETITION ADVANCED WORKERS



THE MOWER

BY FREDERICK C. EUCHHOLTZ

Advanced Competition—Rural Scenes Closes July 31, 1919

It has been some time since there has been a competition devoted to Rural Scenes. This fact alone should make this competition unusually interesting and valuable to camerists. Moreover, it comes at a time of the year when suitable subjects are obtainable with comparative ease, and when many amateur and professional photographers are in the open country on a vacation. In preparing pictures for this competition, the camerist should first make sure that he grasps the difference between "rural scenes" and "farm-scenes."

It should be remembered that there are many activities in addition to farming that occur in the rural parts of the United States and Canada. In short, virtually any good genre or bit of pictorial beauty that breathes the spirit of rural life is eligible to this competition; but the portrayal of wild mountainous scenery—however inspiring—is not rural.

In considering rural scenes as a subject, the mind insists upon the farm as being the most fruitful source of good subjects. Very true, and the camerist will do well to make the most of his opportunities if he is fortunate enough to be near a farm. However, the farm is not the only origin of interesting rural scenes.

In this competition, lovers of genres and pictorialists should seek out new themes and, if possible, get away from the idea that a rural scene *must* be a farm-scene. Obviously, there are subjects on or near a farm that do not suggest a farm-scene, in the strict sense of the word, and the intelligent camerist will utilize this material to excellent advantage.

It will be well for those who expect to enter this competition to remember some of the many subjects that painters have found in the rural districts of every country. Rural community-life offers an almost inexhaustible source of intensely interesting genres any one of which is just as much a part of a rural scene as a traffic-policeman is a part of city-life. The general store of a small village is a subject that can be made to yield all manner of rural genres of the first artistic and technical merit. The post-office is only second to the general store in value to the lovers of genres which tell a story that all can understand and enjoy. The work of George W. French in PHOTO-ERA during the past few years is ample evidence that the wide-awake camerist can obtain an unlimited supply of delightful themes. Care must be taken to make every genre unmistakably rural, otherwise the judges of this competition will be obliged to eliminate it, no matter how good it may be otherwise.

Perhaps, the camerist who has the time and the opportunity to walk or ride along country-roads—into villages and out of them—will have the advantage to capture suitable themes of artistic and technical value. A moment's thought will show that every turn of the road has infinite possibilities. At this season of the year many highways and lesser avenues of communication are being repaired. Often, the workmen engaged in this work are, or may be, grouped in a truly picturesque manner. Moreover, if it proves to be a group of farmers working out their taxes on their own bit of country-road, the opportunities of a rural genre are very good. Further along, the camerist may pass an itinerant peddler's wagon, heavily loaded with all manner of kitchen-utensils, feather-dusters, step-ladders, rocking-chairs and other household furniture. Usually, the proprietor of this "general store on wheels" is a character well-known in that locality and is, therefore, likely to be delighted to place himself and his "store" to suit the pictorial requirements of the camerist—provided he receive a print in exchange for his trouble. In the same class may be placed the grocers and butchers who travel over miles of country in order to sell their wares to the distant farmer's wife. The vendor of sewing-machines is also abroad in the land and so are many other country-tradersmen who frequent the highways and byways of rural communities. They form an important part of country-life, and all have a picturesqueness that the intelligent camerist should utilize. If he should be fortunate enough to be present when a "sale" was being made, it is more than likely that an original study in grouping and facial expression would present itself.

The rural free-delivery mail-service to outlying farms and villages is another source of material. The metal mail-boxes perched on the top of a post in front of every farm, represent the connecting link between the comparative seclusion of the farm or village and the "big" world beyond. These mail-boxes and their vital relation to the affairs of those who live at a distance, cannot be appreciated by those who have the telephone and the telegraph at hand. Many a joy has been experienced and many a tragedy has taken place near these mail boxes, when eager hands have torn open a long-delayed missive to find happiness or pain. In either case, the mail-carrier whips up his horse or

throws in the clutch and disappears down the road with a smile or a shake of the head.

The old-fashioned blacksmith-shop is rapidly disappearing and the modern garage is taking its place as one of the genres of rural life. Nevertheless, there are still many blacksmith-shops to be found off the beaten path, that possess rare pictorial beauty and interest. Usually, one or more "local characters" frequent the open door of the shop, and these—with a possible genre of the blacksmith himself—will furnish excellent subjects. In mentioning the general store, post-office and blacksmith-shop, I do not wish to convey the impression that pictures of these centers of rural activity constitute a suitable entry to this competition. I mention these three subjects as being excellent and fruitful ground for the portrayal of rural community-life *en masse* and in detail. It is strictly up to the camerist to make the most of those parts of the general scene as meet his requirements, to the best advantage.

There is another side to rural life and scenes that cannot fail to interest the lover of genres and country-life. I refer to picnic-parties, husking-bees, berry-picking, threshing-bees and other activities in which neighbor joins neighbor in merrymaking or to accomplish some bit of work that could not be done single-handed, and that would benefit some individual or family. The portrayal of this community-spirit is a subject worthy of any photographer's best effort, and a pictorial interpretation of this admirable spirit should be attempted. Careful thought on the part of the camerist will suggest other subjects related to those mentioned, that are equally rich in artistic value and general interest. Much of the success of the aspiring competitor will rest with his intelligent use of the photo-equipment he may have. Obviously, he should not attempt a subject beyond the capabilities of his outfit, or one that is beyond his own executive ability. It is far better to make sure of a subject than to attempt too much and fail utterly.

Without a doubt, the general subject of rural scenes should include landscapes. However, these must be rural and not savor of a wilderness or the awe-inspiring canyons of the Sierras. A rural landscape might, and might not, include a figure or figures. This point is one that must be decided by the camerist. A view across rolling farm-country could include a mowing-machine or hay-wagon in the distance, without marring the beauty of the landscape. Again, a bit of country-road showing a farmer jogging along in his buggy, might be developed advantageously. However, the figures—if any are included—must not dominate the picture, for then we would have *figures in landscape*, and that belongs to an altogether different competition. A woodland-scene, no matter how beautiful, does not in itself constitute a rural scene, because evidence of the hand of man is lacking, and a true rural scene should show the results of cultivation, improvement and maintenance by man. I admit that often the camerist will be puzzled to classify his subject correctly; but I believe that enough suggestions have been offered to enable him to make his decisions intelligently.

Since a Rural-Scenes Competition is somewhat of a novelty to our more recent subscribers and friends, we hope that there will be a hearty response and that the judges will be hard put to select the prize-winners. When all is said and done, the editors, subscribers and friends of PHOTO-ERA all seek the same goal of artistic and technical photographic excellence. In fact, we resemble a large family which is in complete accord because it has *one purpose*, viz.: to uphold high standards to encourage the best and to see to it that the camerist who does good work receives the credit he deserves.

A. H. B.



BEGINNERS' COMPETITION



Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.

Prizes

First Prize: Value, \$2.50.

Second Prize: Value, \$1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is "**Miscellaneous**"; but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than **two** years' practical camera-activity, and whose work submitted here, is **without any practical help from friend or professional expert**. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from $2\frac{1}{4} \times 3\frac{1}{2}$ to and including $3\frac{1}{4} \times 5\frac{1}{2}$ inches, and enlargements up to and including 8 x 10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. **Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. **Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data. Criticism on request.**

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives after he shall have received official recognition.

7. **Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter, SENT SEPARATELY, giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request. Be sure to state on the back of every print for what contest it is intended.**

8. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with double thicknesses of **stiff corrugated board—not the flexible kind, or with thin wood-veneer**. Large packages may be sent by express.

Awards—Beginners' Competition

Closed March 31, 1919

First Prize: Juan J. Moreno.

Second Prize: Henry A. Pratt.

Honorable Mention: Edwin A. Falk; Joseph B. Morse, Jr.

Snapshots—and Snapshots

DURING the next two or three months the "snapshotters," "button-pushers," "camera-fiends" and "photo-nuts" are "in season" at the seashore, in the mountains and in the country. Perhaps some of my readers will take issue with me for heading my article with such implied "knocks" at the vacation-camerist; but, wait a moment! These terms are not always traceable to a desire of the general public to disparage the efforts of the amateur photographer. On the contrary, a "camera-fiend" is more often known for his ceaseless efforts to photograph the best subject from the best viewpoint—even at the risk of personal injury. However, it must be admitted that "photo-nut" implies no subtle compliment. Frankly, it designates the sort of amateur photographer who photographs everything and anything; but has nothing to show for his haphazard effort. Hence it may be seen that these nicknames are usually bestowed upon those amateur camerists who merit the implied compliment or slur. As in every walk in life, the individual *usually* deserves what he gets. An intelligent and progressive amateur photographer may bear a sobriquet bestowed upon him by his friends who admire his work and his commendable zeal to excel. By the same reasoning, an amateur photographer who dabbles in photography, with no intention to progress or improve his work, receives a nickname that determines his status among his friends and among other amateur photographers.

My reason for bringing this to the attention of beginners, is to try to make them realize the truth of the old saying, "There's many a true word spoken in jest." I hope that every reader of PHOTO-ERA merits a nickname that is an indirect compliment. If there are any whose photographic record to-date is not all that it should be, *now* is the time to make good. Moreover, now is an excellent time for every beginner to wake up to the fact that there are snapshots—and snapshots. A little thought will recall many incidents in which an amateur photographer has said, "these pictures are a few snapshots that I made at the seashore last summer," and these snapshots have proved to be excellent, technically and artistically. Again, the same remark has been made by another amateur, and his "snapshots at the beach," or elsewhere, have proved to be such examples of under- or overexposure, inaccurate focusing, poor developing and worse printing that his pictures are certainly no credit to himself, and a positive annoyance to the beholder. Yet, in both cases, the pictures are "snapshots"!

It seems to me that many times the word "snapshot" is used to belittle a really creditable piece of work, viz.: "that's only a snapshot." Often, it is used as an excuse for lack of artistic and technical workmanship. Literally, a snapshot is "an instantaneous photograph,

FIRST PRIZE
BEGINNERS' COMPETITION



HOME-PORTRAIT

JUAN J. MORENO

made usually with hand-camera, without formal posing of the subject." Hence, the term "snapshot" should be used to explain by what means a certain picture was obtained. Really, we should say a snapshot-photograph—meaning a photograph made instantaneously. However, the word snapshot used alone is perfectly correct, provided that its technical meaning is understood clearly; but when it is used alone to designate amateur photographs in general, it has a tendency to misrepresent the picture and the maker. Obviously most of the pictures made by amateur photographers—particularly beginners—are snapshots, viz.: made with a shutter-speed of 1/10, 1/25, 1/50, 1/100, 1/200 or 1/300 of a second. Since it requires skill and good judgment to make a good snapshot, this term should never be used as in the expression, "that's only a snapshot." Why not say, "this is (*not* only) a snapshot; that is, a time-exposure, and here is one that is a bull-exposure." Why not be just as proud of a good snapshot as of a good time-exposure? In short, make the technical term of "snapshot" a word of dignity and importance in photographic phraseology.

The coming months are filled with photographic possibilities for the beginner who means to make his camera a stepping-stone to a world of which he knows but little. An instantaneous exposure—snapshot—is the first step; and from the first to the last snapshot, each deserves the beginner's best thought and effort.

There are snapshots—and snapshots; but let every beginner make the sort of snapshot that requires no amendment and provokes no uncomplimentary nickname for the maker. At the risk of repetition, let me remind every beginner that photography is too much of an art and a science to be treated lightly. To make good pictures requires more interest and perseverance than is usually called for by a passing whim. Sometimes, it seems needless to point out the importance of consistent effort in photography. To me, it appears self-evident that to obtain commendable results, the beginner must show evidence of ambition and genuine interest.

From experience I know that it is difficult to prevent trivialities from upsetting an ambitious project. A beginner who cannot fill his camera with a fresh film is not likely to grasp the pictorial possibilities of a subject. Hence, the vital importance that every upward step in photography should be founded on the rock of ultimate mastery. Then, when a thing of beauty is at hand to be photographed, the beginner's best may be put into the attempt to portray it truthfully—unfettered by clumsy efforts to fill the camera, focus it and make the exposure. Yes, there are snapshots—and snapshots; but let every beginner try to make his snapshots this coming summer the kind that are *snapshots*, not "only snapshots."

A. H. B.



TWINS

HENRY A. PRATT

SECOND PRIZE — BEGINNERS' COMPETITION

Photographing Subjects that Face North

WE need not go south of the equator to see the sun shining on the north side of a building, for in the northern hemisphere the sun rises north of east and sets north of west, from the vernal equinox in March until the autumnal equinox in September, so that near the sunrise and the sunset-hours, all through the summer-months, direct sunshine reaches the north side of objects on the landscape.

The most attractive side of many a building and the most picturesque side of many a landscape is the side that faces north, and if we photograph this north side while the sunlight is shining directly on it we will obtain a picture that shows more tones of light and shade than could be recorded in any picture that was made when the subject was wholly in shadow.

But it sometimes happens that the most interesting part of a subject that we wish to picture with sunshine on its north side will be hidden by foliage after the trees put out their leaves. In this case the picture must be made shortly after the sunrise or shortly before the sunset hour in *spring, before the leaves come*.

The best time to photograph a waterfall that faces north is in the early morning and late afternoon hours in spring or summer when the sun is shining on the falling water. It is impossible to picture such a subject at other times without working against the light, and if this is done the falls will be in shadow and the picture will lack the snap and brilliancy that sunlight combined with shadow always gives.

In making pictures during the hours when the sun is near the horizon we should be careful not to underexpose, for the light at these hours is not as strong as at other times of day.

Light-colored subjects that show few dark tones can usually be successfully photographed, with cameras that have double lenses, by giving an exposure of 1/25

second with stop 8—F/11 on anastigmats—not earlier than half an hour after sunrise or later than half an hour before sunset, and dark-colored subjects, or subjects that have plenty of dark shadows, should receive an exposure not shorter than 1/25 second with stop 4 on rectilinear, or stop F/8 on anastigmat lenses.

With single lens, fixed-focus box-cameras that have no stops marked 4, 8, or 11, and with single lens, folding cameras that have stops marked 1, 2 and 3, it is best to make the pictures not earlier than one hour after sunrise or later than one hour before sunset, giving light-colored subjects a snapshot exposure through the largest stop and dark-colored subjects and all subjects that have plenty of deep shadows, a time exposure of one second, with the camera on a tripod.—*Kodakery*.

Something for Nothing

It is astonishing that in these days of increased cost of production there should be persons who still persist in sending a *postcard* asking for free sample copies of a high-class publication. If the publisher complies, that is the last of the matter. The anticipated subscription usually fails to arrive.

A thoughtful or serious-intentioned person will send a letter and enclose, at least, a three-cent stamp; or, he will send a letter—a postcard will suffice—asking the price of a sample copy. A return-postcard gives the correspondent the desired information, and it is then time for him to decide what to do.

Merchants do not generally give away samples of any standard article, nor will a grocer give to total strangers—even to a prospective customer—a free pound of high-grade coffee, sugar or other expensive commodity. If PHOTO-ERA is worth seventeen cents a copy to a regular subscriber, a single copy should be worth twenty cents to any one, and an old copy in perfect condition is often worth more.



THE CRUCIBLE

A MONTHLY DIGEST OF PHOTO-TECHNICAL FACTS

Edited by A. H. BEARDSLEY



A New Color-Process of Printing on Paper

THAT color-photography still exercises a potent spell over the public-mind was evident from the crowded house of the Royal Photographic Society at the last technical meeting, when Mr. S. R. Williams brought forward a process—new in part—to prepare prints on paper in natural colors.

A new feature in this process, he claimed, removed an outstanding objection to the usual method of three-color work. The ordinary way of attempting three-color photography consists of making three separate exposures on three separate plates with three separate filters, and obviously its application is limited almost entirely to still life, for the three separate exposures make such subjects as portraits and landscapes with clouds virtually impossible. Various methods have been tried to overcome the disadvantage, some of which depend upon an ingenious arrangement of mirrors so as to obtain the three exposures at once, but Mr. Williams urges that the mirror-arrangement fails to eliminate stereoscopic difference. It occurred to him that a simpler method of working than the use of a complicated camera would be to have a three-color filter, on the same principle as that used in the transparency-processes of Paget and Lumière, so as to get all the three color-impressions at one exposure on one plate. Two important conditions to fulfil are, first, that the three-color screen must be of such a character as to enable a separate print to be made readily from the parts filtered by each of the three colors; and, secondly, that the color-elements shall be sufficiently fine to give the effect of a continuous picture.

So far as he knew, there was no color-screen on the market which fulfilled these conditions, and therefore he set about making his own. He succeeded—working more or less with home-made tools—in making a screen with the three colors alternating in the form of straight lines, 180 to the inch in each color, or 540 to the inch in all. On exposing a panchromatic plate behind such a screen, one-third of the plate, i.e., the parts that come behind the red lines, will be filtered by red, and the others in the same way by green and by blue. Thus, it is possible—given the conditions just stated—to get an equivalent of these three colors in black and white, or in colors complementary to those on the screen, the three impressions being obtained on one plate at one exposure.

In order to make the prints, a key-plate is necessary, consisting simply of black lines and clear spaces, the black lines being 180 to the inch, but each of them twice the width of the clear space, so that on putting the key-plate in contact with the screen and sliding it over the screen he could get the single red or blue or green impression, owing to the fact that the black lines covered two of the color-elements, while allowing the third to show through the interstices; and on using such a key-plate in contact with the negative which had been exposed behind the screen it would sort out those elements in the negative which had been filtered by each color, the key-plate being shifted as required for the three separate printings. His devices to obtain proper mechanical adjustment of the key-plate, and also to learn which parts of the negative he was covering over, would take too long to describe, even were it possible

to describe them without illustration, but they appeared to answer their purpose. In reply to a question he said that the speed of the plate with this screen in position was equal to F/16 Wynne or was about eight times as fast as the autochrome plate.

From this stage it was possible to work by ozo-brom, pinatype, or any similar method. He himself used bromoil, and the pictures he showed to demonstrate the validity of his results—very successful on the whole—were all made by that method. The three prints were bleached for bromoil, and then inked up with appropriate printer's ink applied with the brush. The yellow print was first inked, then placed on a piece of plain drawing paper and subjected to pressure, the blue then similarly pigmented, placed in register on the yellow transfer, and again subjected to pressure, and finally the red print, after pigmenting, was placed upon the top of the paper, which already bore the two other impressions, and, after being again subjected to pressure, gave the finished result.

The Amateur Photographer.

Rapid Plates and Density

MANY photographers do not know that ample density may be obtained when using "super-sensitive" or very rapid plates. *The British Journal* calls attention to this important fact and adds that some operators prefer to use a slower grade in order to obtain plucky negatives. The idea is fostered by the fact that the films of nearly all fast plates appear much more transparent before development than do those of slower ones, and this gives rise to the belief that such plates are thinly coated and lacking in silver. Such is certainly not the case, the fast plates having in some cases twice as much silver-bromide spread over the square inch as the "ordinary" ones. We have used plates which were so transparent that ordinary printing could easily be read through the emulsion, but which gave almost perfect opacity when developed. The fact is that much longer development is necessary for a fast emulsion than for a slow one. If we take two plates of the same make, one an ordinary and the other a "super-sensitive," expose both correctly and develop in the same developer for the same length of time, the difference will be most marked, but if the rapid plate be developed twice or even three times as long, the densities will then be pretty even. Instead of prolonging the development the same effect may be produced by increasing the amount of alkali, or by raising the temperature of the developer. With regard to the former expedient, a little mishap which recently occurred to us will be instructive. By mistake, carbonate of soda was used instead of sulphite in making a stock pyro-solution, and by so doing the amount of alkali in the mixed developer was more than doubled. Upon developing for the usual time, plates which normally gave thin delicate images became so dense that considerable reduction was necessary before the negatives were printable, a conclusive proof that a full quantity of silver was present. The intelligent photographer will do well to give this entire matter his best attention; for, often, it may mean the difference between failure and success.



OUR CONTRIBUTING CRITICS



YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us a six-month subscription to PHOTO-ERA MAGAZINE.

THE "Critic" is a very pleasing bit of composition, with good values. The soft lines add to the pictorial effect and the young lady is intent on examining the films. The subject does not have relief from the background and right line of curtain seems to carry the eye up and out of the picture-space. The hand growing out of the young lady's head, with double lighting on same and back of dress, is not pleasing. The left hand is over dark in printing, sunlight on floor and the edge of table-cloth is obtrusive. Moving the camera back would give more floor-space for subject to stand on and yield better drawing.

M. N. BREMON.

THE most commendable point about this print is the absence of undue halation—a mighty hard thing to accomplish in a composition of this kind. The camera was not held quite level, as the sides of the window are not perpendicular. The worst fault is that the girl is

far too big for the picture-space—her hand and feet are dangerously near the edges of the print—and this has been caused by having the camera too near or else this occurred in the enlarging-process. Her point of interest—and also ours, as the eye travels there immediately—is the films hanging up. But why are they so near the top? Objects of so much stress should be lower down in the print to make the print "hold together." The face, hands, and hair have little detail; and I would like to see a little more of the girl's face. Why is she so "dressed up"? The left side of the print should certainly be trimmed to do away with the white sheet.

C. B. WEED.

THIS is a very commendable piece of work. It shows care and forethought and the technical work is good. However, upon looking at it there is a sense of "unrest." It seems to me that the print is not "balanced" properly. The girl's feet are too close to the bottom edge. This seems to be the effect of too much trimming. The tablecloth on the left, together with the wall-decorations, are intrusive and should be trimmed



THE PICTURE CRITICIZED THIS MONTH

off. The print is heavy here. The model's hand is suspended in the air. This also leaves an uneasy impression. The lines of the window are not parallel with the edges of the print, and they slope downward to the left. The balance is lost again here. The five negatives are somewhat distracting. One would have been better. The print would show to better advantage if the sun-spots on the floor were toned down a bit.

H. J. SHIPTON.

If the room did not permit moving the camera away from the subject, a better result could have been obtained by making a three-quarter figure and allowing more space at the top, since the interest centers there. As it is, more space both at the top and bottom is desirable. The spot of sunlight on the floor is too bright; it draws the eye away from the center of interest and needs to be rubbed down as do the four spots on the wall at the left. The print should be trimmed to make its sides parallel to the lines in the picture, cutting away the white cloth at the left at the same time. The parallel lines of the wall and floor, although scarcely to be avoided, are not pictorial assets. Due to the lack of depth and the light background, the girl's hand appears to be projecting from her head.

LELAND E. GRANT.

At first glance the eye does not travel to a central point of interest. There are no lines to lead it there, or no better definition to give emphasis at any point. The print gives the impression of "out-of-focus" rather

than of soft-focus. The lighting is flat—underexposure—and the figure is falsely cross-lighted, so that lower back parts have stronger highlights than upper front. Reproduction of flesh-color is untrue. The window is too near the center and should have been made at an angle, with more space above. The figure is cramped at top and bottom, and right hand not gracefully placed. More of the table should have been included to balance figure. There is too much contrast in light and dark tones, with too few halftones. Camera should have been placed farther back and to left, and a flash used to light interior.

GILMAN LANE.

STUDY of this print fails to discover its motive. There is no emphasis, anywhere. However, we find on page 216, that an examination of developed films is the subject. The young miss, in the short frock of her early teens, is represented as abnormally tall, due to the camera having been placed too close and too low. A longer exposure would have prevented the darkness of the hands, and improved matters generally, particularly noticeable. The films are not happily placed, are annoying, as also the hand shooting out of the head, the latter suggesting an Indian feather. Distractions at left should be eliminated—they serve no purpose. If the little lady were standing or sitting close to window, examining one or two films in hands, and proper exposure given—avoiding patch of sunlight—a very interesting subject could be arranged.

LYNDSEY BOURKE.



OUR ILLUSTRATIONS

WILFRED A. FRENCH



THE series of six pictures, with the frontispiece leading off, constitutes a small collection of prints sent to the Editor, sometime last year, as evidence of the pictorial activity of the Chicago Camera Club. No text or notes accompanied the collection, consequently the Editor looked about for a suitable excuse to publish the exceedingly interesting set of prints, but even the sender seemed disinclined to supply the necessary "copy." Finally, Mr. Tuckerman, a former president of the club, came to the rescue and kindly furnished a sketch of the club as a working-organization. The art of conducting successfully any club, nowadays, redounds to the credit of the courage, sagacity and resourcefulness of the management. Generally, the operation of the machinery devolves upon the genius of one man—his skill and personality. With him gone, there is a sudden and perceptible halt—the mainspring of the watch has ceased to function. Unless the motive power of the club is restored at once—if a capable understudy be at hand—the machinery of the club goes on without serious interruption. The Chicago Camera Club has had its ups and downs; but, according to Mr. Tuckerman's interesting narrative, the organization is still in the running, and likely to enjoy a long life of activity and usefulness.

Ruth had her portrait made at the Camera Club with its up-to-date professional appointments. I know nothing of the conditions that existed during the exposure, and whether or not the somewhat stern expression is characteristic of the child, or what was its cause. Her large eyes appear to advantage, and yet the result should be accepted as a portrait, in the absence of a title that might transform it into a genre. The artist can no doubt explain satisfactorily the position of the thumb. It may have served to steady the pose; or it may be a characteristic attitude of the child. The management of the light, the modeling of the head, and the subordination of the highlights speak loudly in praise of the artist's skill. Data: studio, Chicago Camera Club; 8 x 10 studio-camera; 16-inch Verito lens; used at F/6; Cooper Hewitt Light; 3 seconds Eastman Portrait-Film; pyro; Azo Bull print.

In "A Bit of Old Portsmouth," page 278, Mr. Rich shows his pictorial skill in a very eminent degree. The placement of the group at the right is very happy and might easily have been spoiled by a less experienced photographer. Data: Portsmouth, N.H.; postcard photographer; Tessar IIb lens; used at F/8; good light; 1/25 second; film; tank-development; Carbon Black print.

Although a child of the age that figures as "The Smile," page 279, is not mercenary—except in a limited childish way—it would not seem to lack for immediate adoration. It is unnecessary, here, to enumerate the many expressions of admiration that instantly spring to the lips of all who yield to this irresistible example of girlish charm. The picture was made in the home, which facilitates the easy and successful capture of delightful themes of innocent childhood. Mr. Kjeldsen and his family will prize this picture beyond all else. Data: at home; October, 7 P.M.; 5 x 7 Seneca Camera; 7-inch Color; stop, U.S. 2.5; Halldorson Flashlamp 5 feet from subject; 10 grains Victor Flashpowder; Standard Orthonon; pyro; print on P. M. C. No. 8.

In "The Dimple," page 280, Mr. Tuckerman

presents a charming genre. The model appears to be in costume, hence the uninitiated critic is somewhat at a disadvantage. However, the expression which emphasizes a facial feature that is the envy of every woman, is admirable. The brilliant lighting appears to have helped the artist to attain his object. Data: 5 x 7 camera; 8½-inch Ross Homocentric; used at F/6.3; Cooper Hewitt light; 3 seconds; Stanley plate; pyro-soda; platinum-print; from enlarged negative made from a "bichromate" positive.

I believe this is the first time that a picture by Paul Wierum, of the character shown on page 281, has appeared in the pages of PHOTO-ERA. He has pictured for us a street-scene in Chicago on a rainy, misty day. He has used the first few planes in which to introduce his pictorial design, which is very successful, although the artist may not have been entirely pleased with the tailor-made individual who furnishes a very convenient balance. The general effect of "A Passing Shower" is notably artistic. Data: April, 9 A.M.; dull light; No. 1 special; 2¼ x 3¼; 3¼-inch Zeiss Ic; stop, F/4.5; 1/25 second; Eastman film; pyro; Artura Carbon Black print.

The river-view by Gordon C. Abbott, page 282, is exceedingly attractive, and well composed. The critical beholder may have some doubt in his mind as to the necessity of the man in the boat to complete the picture. It is a very simple thing to draw a line five-eighths of an inch exactly below the boat and thus create a very pleasing composition, in which the boatman will appear to be quite indispensable to serve the purpose of a balance. Data: Rock River, Illinois; July, 3.30 P.M.; bright light; 3A Kodak; 7½-inch Goerz Dagor; full opening; 1/50 second; Eastman film; pyro; Eastman bromide print.

The very engaging picture of the imprisoned song-bird—apparently a young grosbeak—page 285, suggests that the artist, Carl Hague, is a lover of birds and animals. The theme is unconventional among nature-studies; but those who have no experience in handling young birds should be careful in emulating Mr. Hague's example. These tiny creatures are easily injured; yet our little captive does not appear to be alarmed by its temporary imprisonment. No data.

We have never before published an article on the subject of photographing Niagara Falls by the amateur camerist, that was so clear and practical in its directions, and so well illustrated, as the one by E. S. Anderson in this issue. Mr. Anderson has made no attempt to idealize the wonderful, natural spectacle, but has exercised a commendable restraint in presenting various aspects of Niagara Falls so as not to distort or misrepresent them. His aim has been to treat each view with due regard to artistic composition and local atmospheric truth. The first picture of the series, page 287, is commendably impressive and typical. Desired data will be found in the text.

Among the American pictorialists who invest their themes with marked poetic beauty, is Rudolf Eickemeyer, who has for many years been active as a professional photographer in New York City. His recreation *par excellence* is open-air photography. To this end, Mr. Eickemeyer follows his natural artistic instinct and seeks out some secluded beauty-spot.

generally in the woods. In "A Nova Scotia Forest," page 299, he has revealed the hidden beauty of an Acadian landscape. Those who have a real passion for picture-making in the open, will appreciate the love and tenderness with which Mr. Eickemeyer approaches his theme and fashions it into a pictorial masterpiece. The picture is one of the principal gems in the American Annual of Photography for the current year. No data.

My reference to the remarkably expressive and well-composed motion-picture group on page 301, will be found in the Ground-Glass Department, page 320 of this issue. No data.

Mr. Neuser's portrait of what appears to be his own pet collie-dog, page 303, was awarded an Honorable Mention in the "Domestic Pets" competition which was held in November, 1918. It is an admirable example of animal-photography, and illustrates how so magnificent a specimen of a collie-dog, as this one appears to be, may be photographed with proper regard for the variety of the coloring of his coat. Data: March, about 3 P.M.; good light; $3\frac{1}{4} \times 4\frac{1}{4}$ Graflex; 6-inch Velostigmat; used at F/4.5; color screen, K-1; 1/50 second; Wrattan and Wainwright Panchromatic; pyro-soda; print on Artura Carbon Black.

Our well-known contributor, George Steele Seymour, again appears with a happy blending of poetry and photography, page 304. Everyone who lives in, or who has visited, the American Metropolis, will recognize this view of Broadway made from the McAlpin Hotel. Lovers of poetry will recognize the strains of James Whitcomb Riley, and appreciate the tender sentiment expressed by our amateur poet, Mr. Seymour. The camerist will delight in following the long line of perspective of cars and pedestrians along Broadway. Data: from top of McAlpin Hotel, New York City; June, 10 A.M.; good light; 3A Kodak; Kodak Anastigmat; stop, F/16; 1/25 second; Eastman roll film; M. Q.; Glossy Velox print.

Advanced Workers' Competition

JOHN W. NEWTON who captured the first prize in the Still-Life Competition in February, 1918, received, during April, the suitably engraved PHOTO-ERA silver prize-cup for one of the most successful winter-scenes made in the city. Page 307. The view is partly obscured by the driving snow; the human element is interesting and well directed and the general effect shows the brain of a master. The just and discriminating critic looks in vain for any serious defect in technique and composition, but might differ with the artist as to the absolute appropriateness of the title—"The Beautiful Snow"—unless, perhaps, it may be the subject of a casual remark between the three advancing girls. Data: March, 10 A.M.; heavy snow-storm; $2\frac{1}{4} \times 3\frac{1}{4}$ Ica camera; $3\frac{1}{2}$ -inch Carl Zeiss Tessar, F/4.5; used at full opening; Ansco film; pyro-metol; tank; enlarged on P. M. C. No. 7.

Ralph H. Blohm merits the highest approbation for a picture that invites admiration on account of sheer beauty. It is all that the most exacting connoisseur could wish in an artistically conceived and executed impression of mid-winter. With what excellent judgment has the artist selected the hour, the time of day that yielded the beautifully diversified country-road that winds its way along through the young wood and to make its exit in the extreme distance. The definition, throughout, is very gratifying. To obscure these interesting details by any of the usual means employed would be to impair the effect attained by the artist's rare skill and judgment. Data: Feb. 16, 3.30 P.M.; bright light; 3A Brownie; T. I. B. shutter; single

lens, at U. S. 16; 3 seconds; ray-filter; Vulcan film; pyro, in tray; enlarged on Cyko Plat.

Our good friend Alexander Murray again shows that he has a warm spot in his heart for outdoor sports. It is my recollection that he has not produced a more satisfying representation of King Winter than the one shown in boys coasting, page 309. The winding, upward perspective of the coasters' speedway, its interesting sunlit character and the general unconventionality of the theme, give evidence of Mr. Murray's signal abilities as an artist. Data: Feb. 3 P.M.; 4×5 Premo camera; B. & L. Special lens, $6\frac{1}{2}$ -inch focus; at F/8; Cramer Iso Inst.; Amidol; bright sunlight; 1/50 second; enlarged on P. M. C. No. 2.

Beginners' Competition

JUAN J. MORENO is favored with attractive and willing models, as seems to be evident from his pictures published so far, and on page 313. Dignity, repose and intelligence mark the present portrait. It may be too much to expect that Mr. Moreno—still a beginner and within limitations imposed by this competition—demand that his models be costumed with a view to assist in ultimately artistic result. Children wear, and always will wear costumes of variegated colors or strong in contrast, while the discriminating artist will not think to criticize until the youthful model is brought before the camera as the subject of a picture that is to conform to the rules of art. Data: March 5, 1919, 3 P.M.; light, cloudy; long-bellows camera, $3\frac{1}{4} \times 4\frac{1}{4}$; Suter Convertible Anastigmat; used the front-combination, $8\frac{1}{2}$ inches; stop, F/8; 7 seconds; Cramer Iso Inst.; M. Q. powders; print on Velox Portrait Special.

"Twins," page 314, makes an appeal on account of its novelty. My readers must never forget that the pictures in this department are by beginners; but they are never so poor as to deserve severe criticism. Mr. Pratt's "two babies," though undoubtedly as alike as two peas in a pod, are interesting in several ways and are worthy of study. Data: Denver; indoors; near window; only one subject was used, the total result being produced by double exposure! 5×7 Criterion view-camera; 17-inch R. R. lens; stop, F/8; exposure $4\frac{1}{2}$ minutes, except for time taken out while trolley-cars passed, when the shutter was closed; film, Ortho Commercial; M. Q.; enlarged on P. M. C. No. 2. Quite an achievement for a beginner; what?

Our Contributing Critics

THE picture offered this month to our contributing critics for consideration is "In the Daisy-Field," by Jessie M. Harb.



The Sun as a Business-Partner

IN a pamphlet advertising Bermuda appear several illustrations made from photographs made by N. E. Lusher & Sun, Photographers, Queen Street, Hamilton. An interested reader makes the following inquiry: "Isn't the second member of the above firm at least a silent partner in most photographic establishments—or is this just a printer's error?"

The inquirer is presumably not old enough to remember the original Bates hand-stereoscope—of the seventies—which was invented by Dr. Oliver Wendell Holmes. The stereoscopic pictures sold by Mr. Bates in connection with the Holmes stereoscope bore the label—facetiously suggested by the learned doctor—"Made by Dr. Holmes & Sun."



ON THE GROUND-GLASS

WILFRED A. FRENCH



Motion-Picture Groups

HAVE you ever noticed the rigid, conventional way in which groups of motion picture actors are frequently arranged? In a row, of course, each individual—man, woman or child—fronting the camera lest by turning his body away from the camera, his face might not be seen! Here it is where conventional stagecraft becomes a direct obstacle to spontaneous, artistic and convincing representation of real life. Perhaps, after all, some of the actors might not be averse to a perfectly natural grouping, regardless of partial or complete concealment of their faces; but then, the director gives the instructions, and his word is law. If that official were to suspend the rules of ordinary stagecraft in a photo-play that affords opportunities for strikingly novel and artistic groups, and to introduce a little more freedom and breadth than is customary in his profession, he might acquire an artistic reputation greater than that of his fellows.

In the remarkably clever comedy, "In for Thirty Days," the action is appropriately rapid, and there is no chance, in fact no need, of felicitous groupings. In one scene, however, where the "heroine" (May Allison) and her fellow-prisoners are lined up for inspection by those who would hire them for service, by the day or week, an effort has been made to check the tendency toward rigidity of formation. Incidentally, there is a brief tilt between the discomfited heroine and the bull-necked ruffian, which seems to interest the other prisoners and also the old sheriff at the extreme left. Fortunately, the actors have taken their places in a line more curving than straight, otherwise the end ones would be unable to see what was going on in the middle of the line, even by twisting or craning their necks when placed in rigid military line, as is done frequently. The lighting in this outdoor-scene and the lens-work are exceptionally good.

Remedying a Crowded Picture-Space

THE latest production of Mr. S., a fairly advanced amateur of my acquaintance, which he showed me, recently, was that of a vase of flowers. The picture was excellent, but much too large for the size of plate (4 x 5), and with an all-round picture-margin of only about half an inch. Being asked to express an honest opinion of the picture, I pointed out this one short-coming. How to remedy it, without photographing the object again and making a much smaller image on the same size of plate, I remarked jocosely that a good-sized enlargement would make the present margin wider. "So it would!" joyously assented Mr. S. Thanking me for the suggestion he departed. A few days afterwards, he called at my office and showed me a five-times enlargement, remarking disappointedly, "Well, I've followed your advice. The space around the object, within the picture, is certainly much wider; but it is just as narrow in proportion as in the small print. I've gained nothing, that I can see." I soothed him by saying that nothing had been actually lost. What he needed to do now was to get a mount at his dealer's, or at some paper-house, that corresponded exactly with the tone of the enlargement or a contact-

print, and large enough to afford space of the desired width around the object photographed. After the print had been placed suitably on the mount, the edges could be tinted with a fine brush to match the prevailing tone of mount and print, and the whole copied, using an ordinary dryplate—not a color-sensitive one. From the resulting negative, contact-prints or enlargements with suitable margins could be made *ad libitum*. These hints were followed successfully, and Mr. S. is correspondingly happy.

"Lafayette, nous somme la!"

IN describing the tomb of the Marquis de La Fayette, a local newspaper-man not only referred to the epigram, "Lafayette, we are here!" as having been uttered (not "altered," as my printer made me say on the Ground-Glass page, in the May issue) by General Pershing, but put in the American soldier's mouth such rubbish as "Lafayette, nous somme la!" The orthography is ridiculous and, even if spelled and accented correctly, the phrase would be unintelligible to a Frenchman. "La Fayette, nous voilà!"—while a good translation of "Lafayette, we are here!"—does not convey the full meaning of the English original. To have uttered such nonsense, as the Boston writer has recorded, would be an insult to the memory of the gallant Frenchman who fought so valiantly with Washington during our War of Independence. Besides, as La Fayette is known to have spoken English almost perfectly, there would have been no need to address his spirit in French; and such French!

A Studio House-Organ

THE latest accomplishment in photographic literature is the "Pod" (Portraits of Distinction), a monthly emanation of the Bachrach Studios, which comprise "nine wide-awake studios, and one in Philadelphia." The sheet compressed into eight pages, is declared to be issued for the purpose of promoting greater friendliness, good-will and coöperation in the Bachrach organization, although it is evidently intended to interest outsiders also. Its make-up consists of paragraphs relating to the management of the Bachrach studios—collectively and individually—hints, suggestions, caprices and witticisms, the introduction being a sketch of the Bachrach business, from the pen of Louis Fabian Bachrach, the energetic head of the five New England studios. As an evidence of enterprise, a popular department of PHOTO-ERA, "Our Contributing Critics," has been used as a model for a similar one, only that participants must be members of the Bachrach organization. Among the many pertinent paragraphs is the suggestive query, "By the way, someone asks, Why do we call this a house-organ?"

Optical, though not Photographic

A CORRESPONDENT of the New York *Sun* claims Frederick Ratchford Starr (1821) as the original may-I-notter. He published a book called "May I Not? or Two Ways of Looking Through a Telescope."



PHOTOGRAPHIC THRIFT



Whoever sends us a letter that we consider of practical photo-saving value, will receive from us a three-month subscription to PHOTO-ERA MAGAZINE.

Practical Saving-Methods

EDITOR OF PHOTO-THRIFT DEPARTMENT:

Sometimes one has a negative some part of which is much darker or more dense than another part. For example, a face made against a dark background. When the background is printed dark enough, the face shows no detail, and when the face shows enough detail to be pleasing, the background is almost a solid black. To remedy this, expose in a frame rather than printing-box, exposing just long enough for the lighter parts of the negative, then renew the exposure on the dense part by means of a pocket-flashlight. Hold the bulb close, if the spot is small, or farther away if dense spot is large, giving the bulb a circular motion to even the exposure. A flashlight having a small bulb is better. A little practice will enable the worker to make an even-toned print, or rather a correctly toned print. The time necessary to use the flashlight varies, of course, with the density and size of the spot, as well as the power of the electric bulb. This same plan is used where there are shadows having detail, but too deep to show ordinarily, and also for pyro stains that are unevenly distributed over the film. Even light-struck films can be helped this way. Local development is also used, washing the print after the greater part is dark enough, then continue development on the light spots with weak developer on a tuft of cotton. Frequent washings are necessary, and on the whole this method is not as satisfactory as the flashlight-method unless there is very little difference in the density of the film or negative.

GILMAN LANE.

EDITOR PHOTO-ERA MAGAZINE:

1. To make a home-made screen, sew to the desired size heavy sheeting. Dye it brown, then tack it to movable uprights.

2. To make home-made ink for negatives:

Potassium Iodide.....	100 gr.
Water.....	1 oz.
Iodine.....	10 gr.
Gum Arabic.....	15 gr.

Write on film, immerse in a hypo-bath, wash and dry. Letters will then print black.

3. To make home-made Backing (Simple). Mix Burnt Sienna and Higgins Paste and rub on glass-side. Before developing, wipe off with a damp rag.

4. To renew developer by ridding it of its yellow, or staining properties, filter it through an inert powder like talcum-powder, so as to retain the finely divided silver. The powder sprinkled on sides of the filter, and a pinch placed in the developer will absorb the yellow-producing constituents.

5. To remove abrasion-marks use cotton and wood-alcohol.

6. To preserve developing-paper keep it in a cool

dry place. The writer lost several packages of bromide paper by keeping it in a closet which backed against a hot-air flue. The temperature must have been about 75° most of the time. Paper all fogged.

7. To avoid many blunders—all of which lead to extra expense—read carefully this magazine, of which there are none more practical and broad in scope. Take notes. The writer has a loose-leaf notebook that money—figuratively speaking—could not buy. It is divided into sections such as Composition, Developing, Fixing, Printing, Mounting, Miscellaneous Notes, etc., and what he calls an index of articles in all sorts of photographic periodicals. When reading such matter, all new ideas and pointers are underlined with a lead-pencil, and the page noted on back cover. Later, these ideas are copied in their respective sections in the notebook—an easy matter after having the list of pages of the various notes on the back cover of each pamphlet. The notebook-sections are indicated by using on the leaf-edges, cloth-tabs which can be bought for the purpose, or easily made by cutting cloth passe-partout tape into inch strips and folding so as to stick to leaf-edge and have one-quarter inch projecting, on which to write.

GEORGE W. FRENCH.

EDITOR PHOTO-ERA MAGAZINE:

Use for those test-strips in enlarging. If you make enlargements with the intention of coloring them, here's a tip. Those test-strips with which you determine the length of exposure should be developed and fixed, the same as the enlargements. When you are ready to put on the colors, they will again serve you as test-strips. When the proper tint has been obtained with the strip, you will have the confidence to apply your color to the picture itself.

EDWIN J. BACHMAN.

EDITOR PHOTO-ERA MAGAZINE:

When a plate becomes fogged or old, place it in white light for about fifteen minutes, then rule with a pencil any size of margin to suit the taste of the picture to be masked. Next, with point of a sharp knife, etch along the ruled lines, and it will be found that the film will rise freely from the point. This done, the edge of the mask is outlined by an etched line. Next, with a water-color brush, paint the outer section with developer and let stand until quite black. Then place the entire plate in hypo. This will clear the center so that a permanent mask is made. This method has several advantages, namely, that it will not slip; it is sure to fit the frame; it is absolutely true and it can be made in any design and size.

I also find that the life of a developer that has become clouded is greatly lengthened by having a few filter-papers on hand. If the developer is filtered and the finger dipped in hypo and then in the developer the clouding will nearly vanish and the developer may be used for several additional developments.

Several strips of old plates placed over one another will serve as a temporary exposure-scale for X-Ray.

SGT. P. A. SIMS.



ANSWERS TO QUERIES



R. A. P.—The iridescence on the surfaces of a lens is not due necessarily to the balsam, for when this deteriorates it takes the form of a kind of tree-like marking that extends from the edges toward the center. Iridescence on lens-surfaces is due usually to corrosion of the glass itself. We believe that this is the difficulty in your case; and, if so, there is no remedy. The lens will deteriorate gradually—not in its definition, but in its ability to produce clear, bright negatives—and nothing can remedy the matter except a careful repolishing of the glass-surfaces. This work can be done only by the manufacturer as he alone has the necessary tools of the required curvature.

B. S. R.—Sulphide-Toning presents several difficulties as you appear to have discovered. Assuming that the loss of detail in the highlights took place in the toning-process, and that it was all there before beginning to tone, then it is evident that hypo has been present during the toning. It may have been that it was not washed out of the prints sufficiently after fixing; or it may have been that it was present in the sulphide-solution. For sulphide-solution, when kept, decomposes with the formation of hypo. Bromide or gaslight-prints do not take on a pleasing tone by the sulphide-process; unless, to begin with, they are exposed and developed fully.

H. D. S.—To sell your remarkable picture of Rheims made from an airplane we would suggest that first, to sell the picture to advantage, you would need to advertise it extensively and this is expensive—unless you can obtain a free and complimentary notice from prominent newspapers and magazines on the plea that you have been a soldier at the front and deserve some recognition and support at the hands of the press. In this respect we would be willing to go to the expense of making a halftone-plate of a good print and publish it in PHOTO-ERA, stating price and source of supply. You can also sell copies through photo-supply houses, using only those which are perfectly good. In that case you should have a large number of cards printed with the legend "FOR SALE HERE," and the print pasted on these cards. Second, you might find a purchaser among the many art and picture-dealers that abound in this country. In this connection you might correspond with our friend Mr. J. Sawtelle Ford, publisher of the *Picture and Art Trade Journal*, in Chicago, whose address is Editor, Picture & Art Trade, 528 Monadnock Block, Chicago, Ill. He might give you the names of a number of reliable dealers, which you will find in any edition of the above-mentioned monthly magazine. In this case you would have to make a retail price per print and give 33⅓ or 40% discount to the dealer; or you might sell the negative outright to the dealer giving you the most money. The price should be at least \$50.00. Then the dealer can make his own prints and the deal will be over so far as you are concerned.

K. W. O.—To dissolve developers quickly in cold water, it will be found that a good deal of time can be saved by the substitution of the anhydrous for the crystalline forms of sodium sulphite and sodium carbonate. Each is a fine white powder which dissolves in a very few moments. As these substances are more concentrated than the crystals, which con-

tain water of crystallization, less of them must be used. In the case of carbonate only five-fourteenths—this may be taken generally as one-third for practical purposes—as much, by weight, is required, and of sulphite just one-half should be used. When these quantities are dissolved a solution of precisely identical composition with one made up according to the formula with the crystalline varieties is obtained.

S. S. J.—The meaning of the expression "their speed is as F/4.5 to F/6" as applied to photographic lenses is that one lens works at F/4.5 and the other at F/6. A lens working at F/6 has a focal length six times the diameter of its largest stop. A lens working at F/4.5 has a focus 4.5 times the diameter of its largest stop. As the exposures vary in proportion to the squares of the F/- numbers, the relative rapidities of the two lenses you name would be as 20.25 to 36. In other words, with the F/4.5 lens exposures would be about half as long as they were with the other.

C. H. T.—When part of the image is cut off on the negative it is more than likely that the bellows of your camera sags because you have neglected to fasten it up by the catches provided for the purpose. If it is not the bellows it might be part of the lens-mount or shutter-fitting. We would suggest that you look carefully for something in the camera that is the same shape as the markings on the negatives.

S. O. F.—With regard to profitable photographic reading, we beg to refer you to the carefully prepared indices for each entire year of PHOTO-ERA, which you will find in the December issue, in the back. Again, in the PHOTO-ERA for June, July, August, October and December of 1916, you will find carefully prepared departments containing all the practical subjects by authoritative writers—a collection or dictionary which we prepared after many weeks of careful effort. This work was done for the exclusive benefit of amateur and professional photographers.

L. B.—Plates kept in a cool dry place for as many as five years may be used, the only drawback being darkened edges. There is no definite period as to the length of time that plates may be used successfully after having been kept years in a certain place. Ortho—double-coated—do not usually keep so well, and we should not care to use such a plate if it is more than six months old, even if kept in a cool dry place. It is well—in all photographic work—to use the freshest dryplates obtainable and to develop these as soon as possible after they are exposed.

W. S. T.—Your Photo-Era trophy-cup, won in PHOTO-ERA competition several years ago, can be restored to its original brightness by having it dipped in a solution of cyanide. Have it done by a silversmith or jeweler; but see that the inside is protected in the process. To keep it from tarnishing, coat the exterior with transparent varnish applied with a camel-hair brush.

C. K. V.—The Wollensak Verito Soft-Focus Lens may now be fitted easily to Graflex and other reflecting-cameras. Although this lens has been used successfully on such cameras, it had to be unscrewed from the frontboard to permit the closing of the camera. Now, this difficulty is removed because of modifications made recently in the construction of this well-known and popular pictorial lens.



EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions and Conventions are solicited for publication



The House of Bachrach

THE House of Bachrach, which is familiar to Bostonians as the maker of "Photographs of Distinction," entertained its studio-employees at a Convention held at the Hotel Vendome, April 19, 1919. The event was the observance of the Golden Anniversary of the establishment of the House by David Bachrach, who was the honor-guest of the evening, and the 15th anniversary of Louis Fabian Bachrach of Boston. Since the founding of the first studio by Mr. David Bachrach, at Baltimore,



LOUIS FABIAN BACHRACH

in 1868, the business has grown, until to-day studios are being conducted in Boston, Worcester, Providence, Hartford, Springfield, New York City, Philadelphia, Baltimore and Washington. David Bachrach has one of the longest records of photographic service in the country, and it is a notable fact that he has been a photographer of three wars. Mr. Walter K. Bachrach, who is associated with his father in the Philadelphia, Baltimore and Washington studios, has recently been discharged from the United States Service. Interesting business-talks were given the Sales-Department by Mr. Harold Whitehead, Boston University, Mr. Walter Scott Shinn, and Mr. Charles Davis of the firm of Davis and Sanford. A buffet-luncheon was served and a most profitable day enjoyed.

At the Hotel Vendome, in the evening, a banquet to nearly two hundred employees was given by Louis Fabian Bachrach, followed by dancing. A beautiful Masonic charm was presented him by his associates, which was a complete surprise. He, in turn, presented service-pins to those of his employees who had been associated with him five years. Altogether, it was an

extremely enjoyable event, and did much to weld the friendly spirit now existing in the organization.

Telegrams and messages of good wishes from many friends throughout the country arrived at the House of Bachrach, expressing wishes for continued prosperity.

Y. M. C. A. Camera Club, Philadelphia, Tenth Annual Exhibition

THE tenth annual exhibition by members of the Central Branch, Y. M. C. A. Camera Club, of Philadelphia, U. S. A., was held April 26 to May 5, 1919, at 1421 Arch Street. Eighty-three prints were shown as follows: Leonard W. H. Charnock (2); Geo. E. Compton (3); E. R. Deats (2); W. G. Fitz (12); W. F. Happleh (7); A. F. Hennings (7); J. F. Jackson (21); Wm. F. Kriebel (12); Joseph McMurray (2); Wilmer S. Richter (9); A. K. Stern (1); James Stokley, Jr. (1); Bernard B. Wolff (1).

The awards were as follows: Portraits, first prize, W. F. Kriebel, Street-Scenes, first prize, W. F. Kriebel, H. M. to ditto; Marine, first prize, W. G. Fitz, H. M., ditto, also to W. F. Happleh, and W. F. Kriebel (2); Landscape, first prize, J. F. Jackson, H. M., ditto (5); Miscellaneous, first prize, J. F. Jackson, H. M., W. F. Kriebel; first-time prize-winners, first prize, A. F. Hennings, H. M., to James Stokley, Jr. (2). The judges were Wm. Shewell Ellis, B. A. Osnis and John Bartlett.

Shows by Arthur F. Kales and E. H. Weston

THE one-man show held at the rooms of the Y. M. C. U. Camera Club, Boston, during April, was by Arthur F. Kales of Los Angeles. As the collection was sent away April 25, ahead of schedule-time (April 30), the Editor had no chance to inspect the work of Mr. Kales—genre and figure studies; but according to reports of authoritative critics, the pictures were distinguished by thematic invention, masterly treatment and exceptional pictorial beauty.

During the month of May, the work of E. H. Weston of Glendale, Calif., graced the walls of the Club. The striking individuality of this well-known pictorialist was fully in evidence and created widespread interest.

Classification of Cloud-Forms

THE photo-pictorialist who likes to have an interesting sky in his marine or landscape—of course, with due regard for accuracy and consistency—will find a knowledge of the various cloud-formations very useful. Such information is presented in a booklet issued by the Weather Bureau, U. S. Department of Agriculture, Washington, D. C., and is intended primarily for the use of the Bureau's cooperative marine-observers, and its cost is such as to make it impossible for the Bureau to furnish it gratuitously to the public.

However, at the instance of the Editor, the Chief of the Bureau has consented to arrange with the Superintendent of Documents, Government Printing-Office, Washington, D. C., to place a limited number of the booklets on sale, the price fifty cents a copy, postpaid.

Briefly, the booklet is of convenient pocket-size and contains twelve full-page color-plates, each representing, beautifully and distinctly presented, a well-known cloud-formation—a cirrus, a cumulus or a nimbus. The photographer may often find it distinctly advantageous to be able to mention accurately what form of cloud is in his picture. For instance, what he had always believed to be a cumulus, was no cumulus, at all, but a cumulo-nimbus.

Aside from the satisfaction to be able to identify any one of the different cloud-formations, there may be money-value concealed in this knowledge, should it be a case of selling a cloud-photograph to a publisher, newspaper or syndicate. This same series of illustrated cloud-forms is also issued by the Bureau in the form of a large and handsome chart, 23 x 28 inches, suitable for framing, which may also be procured from the Superintendent of Documents, at a cost of twenty-five cents. When ordering either booklet or the chart, it may be well to add "according to arrangements made with the Editor of PHOTO-ERA," and enclose a money-order for the required amount.

A Correction

IN the January, 1919, PHOTO-ERA there appeared an interesting and helpful article, "Tulle as a Diffusing-Means" by Rev. H. O. Fenton. Through an unintentional oversight this article was credited to our English cotemporary, *The Amateur Photographer*. We take this opportunity to state that *The Australasian Photo-Review* deserves the full credit for this excellent and timely article.

U. S. Army Aërial Photographers' Association.

THE first issue of *Aërial Photography*, the official publication of the United States Army Aërial Photographers' Association, has made its appearance. The organization was perfected by members of the Aërial Photographic School Detachment at Rochester and, "The object shall be to perpetuate the good fellowships and friendships that the Service has generated and to prevent their being broken up by the return of the members to civil life. Only by such an organization can the spirit and the memory of the Service be kept alive. And the object shall further be to promote interest in aërial photography as a profession and as a science, and to publish a periodical to further the above-mentioned objects."

The Association has the sanction of "Washington," which is gladly giving it all possible assistance and backing. Material and funds permitting, the publication of *Aërial Photography* will be continued monthly and will be mailed to members only. There is to be an annual meeting and the coming one, which probably will be held in August, is scheduled for Rochester.

The officers of the Association are: president, Henry Van Arsdale, Jr., New York; vice-presidents, Fred H. Commander, Rochester, N.Y.; Lloyd Norris, Baltimore, Md.; and Louis Strauss, St. Louis, Mo.; secretary-treasurer, Carl H. Kattelmann, Washington, D.C.; assistant secretary-treasurer, Wickham Harter, Trenton, N.J.; board of governors, Phil. E. Griesemer, DuBois, Pa.; Charles F. Mazdon, Elkins Park, Pa.

All members of the Photographic Section of the Division of Military Aeronautics are eligible for regular membership and all persons interested in aërial photography may become associate members. Dues are \$2.00 per annum. For membership-cards and further information address Carl H. Kattelmann, Secretary-Treasurer, 617 H Street, N.W., Washington, D.C.

Harry Coutant Again at Work

IF Harry Coutant, the well-known photographer of New York, had gone to the front and been dangerously wounded or gassed, he could not have undergone much greater physical suffering than he did through his recent very severe illness.

Since the middle of last December he has been practically dead to the world, at which time he had an attack of pleurisy, followed by influenza, and wound up with double pneumonia. As the building containing his office and work-rooms, at 546 Fifth Avenue, was to be remodeled, he had a monthly cancellation-clause put in his lease for the past year; and, of course, the notice to move came at the height of his illness. Everything was therefore moved to his home in Brooklyn. As soon as he was able to travel, he accepted an invitation from a good friend and customer to come up to his country-place, at Rhinebeck, and stay until he had fully recovered. When he left there, he had regained his normal weight. He is now continuing his work at his home in Brooklyn for the present.

Mr. Coutant is a man of middle-age, and maintains his reputation as a craftsman of the highest rank, his speciality being photographic reproductions.

Official U. S. War-Photographs

READERS of PHOTO-ERA who are interested to obtain official war-photographs should write to the Officer in Charge, Photographic Section, Signal Corps, 18th Street and Virginia Avenue, Washington, D.C. The official photographs are 15 cents each and the purchase carries with it the right of reproduction. They may be selected from a list of official and unofficial subjects which is obtainable from the address already given. Unofficial war-photographs are to be purchased from the owners whose names appear on the unofficial list. The photographs on both lists were selected on the basis of historical significance, human interest, artistic merit and photographic quality, by Major Kendall Banning. We repeat that all unofficial photographs are private property and are copyrighted; in no circumstances are these pictures to be reproduced except by permission.

Boston Honors J. H. Garo

THE average Bostonian seems to think that, once a citizen has burst into the "Whirling Hub" column of the *Boston Traveler*, the climax of that individual's career has been reached. He has, indeed, become a prominent citizen—worthy of the traditions of the Sacred Codfish and the Hub of the Solar System. Well, Jack Garo, the photographer-painter-singer-athlete, has experienced that exhilarating sensation, due to the *Traveler* of May 16, 1919. Edition nearly exhausted. But despite all, our versatile friend continues to wear the same size hat, to keep his studio and other appointments and to enjoy PHOTO-ERA. "Condition normal," is the latest.

Portland Camera Club

THE Portland Camera Club, Photographic Section, Portland Society of Art, elected the following officers at its annual meeting on May 5: Francis O. Libby, president; Roger P. Jordan, vice-president; William T. Starr, secretary-treasurer; George MacDonald, print-director; and Harold Ayer, lantern-slide director. Further information with regard to meetings, lectures and other club-activities may be obtained from the secretary, William T. Starr, Box 661, Portland, Maine.



LONDON LETTER

CARINE AND WILL CADBY



A QUITE new idea is the exhibition of *Photograms of the Year* or, rather, of the original prints from which the reproductions for this popular annual are made. This show held at present at the Camera Club is decidedly interesting, and we hope that a good proportion of London's stranger population will visit it. But to those who have been to the London Salon times enough to have digested the work hung there, this second edition must seem a little bit like a *réchauffé*, for most of the exhibits will be familiar.

We, however, were able to enjoy it thoroughly, for our visits to last year's Salon were short and few, and the one opportunity we had hoped to study the pictures at leisure was used up in the meeting of, and chat to, a very old photographic friend whom we encountered at the doors. Also, not having had an opportunity to see a copy of *Photograms* of 1918, helped to make this show almost entirely fresh to us. The gallery, too, at the early hour of our visit, was empty so that we could make up for our lost opportunities.

The reproductions in *Photograms of the Year* are, of course, excellent, and it was interesting to walk around, book in hand, comparing them with the originals. A superficial glance found them quite as good, but careful study soon disproved this. They may be technically speaking even superior, but, after all, the originals had the spirit, and one understood, or rather thought one did, what the photographer was trying to convey.

There are two prints strangely alike: "Vaudeville," by Edward Henry Weston, of California, and "Inga Sontum," by Clarence H. White. It is rather a coincidence that these two well-known photographers should have had the same idea and exhibited it the same year. In each case the figure stands in a modern-dance attitude, between two masses of black. One imagined it to be on the stage. Both are striking and attractive pictures that compel a second glance; but whether one could live with them, is another question.

On reading the title "No Dancer," one of us expected to see a portrait of that nowadays unique person who does not "shake a leg,"—but, as the text of *Photograms of the Year* points out, the "No" is a dance of great antiquity in Japan, and the photograph of the "No Dancer" is witchlike and weird, with a head of hair more like an Indian than a Japanese. That is, if it really is hair that surrounds the head; the focus is pictorially vague so that most of the "No Dancer" is wrapped in mystery.

Tired, at last, of standing and gazing at the prints, we sat down to study *Photograms of the Year*. There is an editorial that discusses the different countries responsible for the pictures. "The American effort has surprised every one," as its quick recovery from a state of war is surprising us now but, as it goes on to say of the Americans, "their interval between the pre-war state and the conditions of peace has been small compared with that of Great Britain and other countries."

The notes on the reproductions are written by Mr. W. R. Bland. Mr. Antony Guest writes on "Some Aspects of Landscape and Portraiture," in his usual critical and scholarly way. But the best thing in the book is Mr. Ward Muir's "The Importance of the Beginner." It is a meaty article; there is not a phrase one could do without and, like all his work, it is well

written and readable. Also for photographic propaganda it is not to be excelled. We should like to have it reprinted in leaflet form and distributed among all our beginner-friends. If we were business-people, we should have a stack of these leaflets to give away broadcast; but in this country imagination and trade do not run hand in hand.

From the various photographic plate-makers we have received the welcome news of the first reduction in the prices of dryplates. Kodak, ever to the fore, preface their intimation with a few cheery remarks, rejoicing "that manufacturing-costs now permit us to make a reduction in the prices of glass-plates to the figures in this list," and further on, they intimate that it is no longer necessary to return old negative-glass. We referred to this arrangement when it was first started, and, although in theory it sounds well and thrifty enough, in practice it was undoubtedly a bother. The Imperial Dry-Plate Co. and Wellington and Ward have also posted tables of similar reductions, so that the quarter plate ($4\frac{1}{4} \times 3\frac{1}{4}$)—to take one size as a standard—now costs three shillings per dozen instead of three shillings and eight pence, which has been the top war-price. The pre-war figure was one shilling and three pence, so we have a long way to travel before, if ever, we again reach the old conditions, where there was never any hesitation—at least so far as expenses were concerned—in exposing a plate. But most amateur users have grown more careful and frugal as to exposures, and have also used smaller sizes when possible, so that their expenditure has not been increased.

It is interesting to note that British firms are realizing their responsibilities as to supplying materials that used to come from Germany. Photographic base-papers, to which the Fatherland gave special attention, are now being made in this country; and one firm, Wiggins, Teape & Co., which has always been big paper-manufacturers for ledger, account book, and typewriting work, is now issuing fresh capital expressly to develop the making of photographic base-papers, with which they were experimenting as far back as 1911.

Surely the business of the film-actor has increased in dignity since the Prince of Wales duly took his place and acted his part in two new film-dramas—"The Power of Light" and "The Warrior Strain." It was during the parade of one thousand cadets of the County of London Battalions that the films were made. In each the principal players are supposed to receive rewards for gallantry, and these the Prince bestowed, the more fittingly as he is the Chief of the Cadet-Force. Rumor has it that the Prince was very natural and spoke to the film-actors as if he were doing the real thing.

The exhibition of work done by prisoners of war, at Ruhleben Camp, Germany, brings to light the interesting fact that among other things several cameras were made from cigar-boxes, and on one reflex camera a prisoner worked for eighteen months, and made an improvement that has been patented. As photographers, we are keen to know exactly what this improvement was, and also which will be the firm to turn work, done under such adverse conditions, to the benefit of the general public.



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

OVER JAPAN WAY. By Alfred M. Hitchcock. 12mo; 274 pages. Profusely illustrated with original photographs. \$2.00 net; postage, according to zone. New York, U.S.A.: Henry Holt & Co.

To a person who contemplates a journey to Japan, Mr. Hitchcock's story of the Land of the Mikado will prove instructive and delightful reading. The author, conversant with modern political history, deals frankly with conditions as he finds them and, being also a keen and intelligent observer, he records his experiences in a naïve and breezy manner, his narrative being one of engrossing interest from beginning to end. He tells of the customs of the natives, their home-life, industrial activities, amusements and ceremonials. He speaks with intimacy, sympathy and authority of all these things, giving the reader a profound insight into the simple, artless character of a people, which, despite its adherence to traditional forms of creed and ideals, challenges one's admiration. The tourist may enter Nippon with convictions of advanced civilization; but he will soon find that many of them are founded on conceit and hypocrisy and that he would be the better, morally and physically, for a little of the charm of his host's precepts of living.

The illustrations, which are generous in number and admirable in quality, are an indispensable adjunct to the text. They picture graphically and alluringly typical scenes of the domestic, rural, industrial, commercial and religious life of the Japanese, as well as the temples, shrines and the beautiful natural scenery of this truly interesting country. Whatever may be the propagandists' picture of the future relations between Japan and the United States, there certainly will be a heavy wave of travel in the direction of Japan this season, and deservedly so, particularly as it is not expected that Europe will soon be favored with many visitors from America, except for the purpose of trade and commerce. In any case, the perusal of Mr. Hitchcock's enticing volume will implant in the reader a desire to make the personal acquaintance of the most energetic and progressive people of Asia. Indeed, in these days of territorial aspirations and commercial rivalry, it behooves all wide-awake Americans to get in close touch with our neighbors across the Pacific by seeing them at their best—in their native land.

Sale of Halftones Published in Photo-Era

MANY amateurs have been printing some of their favorite subjects on postcards. With this end in view, several workers whose pictures have been reproduced in PHOTO-ERA have procured from us the original halftone-engravings which they are utilizing, advantageously, in many ways.

One amateur, of our acquaintance, is now using the halftone of one of his successful pictures published in PHOTO-ERA, several years ago, for the purpose of decorating his stationery (full-sized letter-heads) together

with the legend, "Was awarded second prize by PHOTO-ERA, THE AMERICAN JOURNAL OF PHOTOGRAPHY."

If the halftone block is the size of a postcard, or even smaller, it can be used by a good printer in the preparation of picture-postcards. If the block should be a little larger than $3\frac{1}{4} \times 5\frac{1}{2}$ (size of a postcard), it can be easily cut down to the required size.

Any workers whose pictures have appeared in PHOTO-ERA during the last five years may have these perfectly good halftone blocks at one-half the actual cost to us, provided they will procure them from us without delay and provided that the halftone-blocks are available.

Quality of V. P. Negatives

IN a recent issue of *The British Journal* appeared some timely advice with regard to the negatives obtained with vest-pocket outfits. Now that there is an ever-increasing tendency on the part of press, commercial and professional photographers and serious amateurs to use vest-pocket cameras, many are finding out that their technique is decidedly faulty. It is certainly easier for the less skillful to make technically perfect twelve by ten negatives than to produce an equally good result from a vest-pocket size negative via enlarging. The ideal result depends mainly upon the worker knowing what kind of negative to aim for. The general tendency is to make these negatives too dense, and if this is the case, the enlarging-process will be found to make harsh contrasts all the harsher, and to lose the fine tonal qualities of the negative. It would be a good plan for the photographer who contemplates using a miniature camera as a supplementary instrument to make half a dozen exposures by the aid of the meter, taking care that these are on the full side and to develop them so that each is slightly further developed than the previous one. A set of enlargements from the negatives will show exactly what is required. Great care is needed to prevent mechanical damage, such as scratches, etc., and we favor the tank-and-time-method of dealing with the exposures made with vest-pocket cameras. Grain must also be avoided, but with a suitable developer, used fairly diluted, this ought never to prove troublesome.

Why Prints are Not Returned

PHOTO-ERA has a large collection of prints that are waiting to be returned to their owners. The reasons for this sad state of affairs are as follows:

First, absence of name and address on the prints of sender.

Second, failure of senders to provide postage for their return.

Third, failure to indicate why they were sent, or rather, no advice has been received by PHOTO-ERA.

Fourth, prints that receive Honorable Mention remain the property of PHOTO-ERA, according to the rules which are stated plainly in every issue, together with conditions under which they may be returned to senders.

If this meets the eye of those who are in the dark regarding the fate of their prints, will they kindly communicate with the Publisher, and they shall be enlightened.

A Stock-Enterprise

POLICEMAN (surprising a suspicious character in a photographic stock-house at midnight): "What are you doing in this store?"

Burglar: "Can't you see I'm taking stock?"



RECENT PHOTO-PATENTS

Reported by NORMAN T. WHITAKER



THE following patents are reported exclusively for PHOTO-ERA MAGAZINE from the patent-law offices of Norman T. Whitaker, Whitaker Building, Washington, D.C., from whom copies of any one of the patents may be obtained by sending fifteen cents in stamps. The patents mentioned below were issued from the United States Patent Office during the month of March, the last issues which have been disclosed to the public.

Isador Kitsee of Philadelphia, Pa., has been granted patent, No. 1,298,514, on Color-Photography.

Elias P. Earle of Townville, S. C. has invented and patented as No. 1,298,312 a Foldable Camera.

Patent, No. 1,298,582, has been issued to LeRoy D. Shafer and Lester J. Bollinges of Grove City, Pa. The patent is entitled Focusing-Device.

A patent, No. 1,298,296, on a Camera issued to Robert Cameron Colwell, of Beaver Falls, Pa.

Patent, No. 1,297,704, on Finder in Combination with Camera-Shifting Mechanisms for Focusing, has been issued to John E. Leonard of Los Angeles, California.

William P. Russel of Anniston, Ala., has a new Re-touching Frame, patent, No. 1,296,432.

A Kit for Plate-Holders has been invented by Fred Edwin Wood of Langer, California. The patent is No. 1,297,957.

It is to be noted that during the month of March an exceptionally small number of patents were issued from the Patent Office pertaining to photographic devices.

Useful Suggestions for Darkroom-Fittings

AMONG the many suggestions made by Mr. Vivian Jobling at the Royal Photographic Society's last technical meeting were the following which *The Amateur Photographer* records as of special interest.

The darkroom-bench should be not less than 3 feet 3 inches high, and either treated with paraffin-wax or covered with linoleum to protect it from chemicals. A darkroom-lamp should be raised on a shelf or box about 8 inches above the level of the bench; a watch-holder fixed to the edge of the lamp-shelf is handy.

A convenient strength in which to keep hypo in solution is fifty per cent, as it can then be diluted as required, the bulk being doubled for plates for example.

To avoid the necessity of weighing out the hypo, a 40 ounce bottle may be taken, exactly 40 ounces of water put into it, and a file-mark or scratch made at the water-level. Then exactly $10\frac{1}{2}$ ounces of water is poured back into the measure and another scratch put at the new level. To make up the fifty per cent solution at any time, it is only necessary to fill the bottle with water up to the level-mark, and then to add hypo from the stock-jar until the water-level is raised to the higher mark. The $10\frac{1}{2}$ ounces represents the bulk of water displaced by 20 ounces weight of hypo.

A simple draining-rack is made by taking a piece of round stick, planing a flat on one side to prevent rolling, and making a series of saw-cuts on the other side, about $\frac{1}{2}$ inch apart. The plates are rested in these cuts, on alternate sides of the stick, in order to give greater air-space, their lower corners on the table or shelf.

To focus an enlarger accurately, to test the covering-

power of the lens, or to set a fixed-focus enlarger, there is nothing to equal a piece of lace-net bound up between two pieces of glass. The inclusion of a piece of tissue-paper exactly one inch wide when making such a focusing-device, will enable the scale of enlargement to be measured directly on the paper or screen.

To facilitate the centering of prints upon large mounts, an ordinary two-foot rule can be taken, upon which the figures have been painted out, and a new series inserted, commencing with zero in the center of the rule, and marking each half-inch on either side as an inch in ascending order to 24 inches. This rule can be centered on a print, and the mount marked off to a definite width on both sides, or the rule can be centered on the mount and the print immediately placed centrally on the rule also.

Notes on Weighing Chemicals

To the photographer who makes up his solutions, weighing is a most important and necessary process, and one that in most cases has to be performed accurately. The following notes will prove useful to some, to whom the niceties of this particular chemical operation may be unfamiliar.

For general photographic use, one of the cheap hand-balances that can be purchased at a chemist's is to be recommended. If possible, a hand-balance should be purchased in preference to a "beam-and-stand" balance. There are two reasons for this; the most important is that they are extremely portable, and are thus especially useful to the traveling photographer. The other reason is that with these balances the rapidity of weighing is very great—another useful point. The beam should be about seven inches long, and the pans should be made of well-nickeled brass, suspended by silken cords. In using the hand-balance it should be raised only a short distance from the bench, certainly not to the level of the eyes. A good hand-balance should weigh about a grain sensitively.

If the photographer has a better balance—e.g., one in a glass-case—greater care must be taken. If money is no object, platinum-pans are desirable, but these cannot be obtained at present. The thing to guard against continually is water, in the form of moisture, condensing inside the glass-case. This can be prevented by placing an open bottle of calcium oxide (CaO) or dried potassium carbonate (K_2CO_3) inside it; or a small bottle could be filled with oil of vitriol or strong sulphuric acid, which would soon absorb all moisture.

No substances should be placed in actual contact with the pans; for solids a watch-glass may be employed, the weight of which has been determined, or two equal watch-glasses, one on each pan. In weighing substances like copper oxide and calcium chloride, which are affected by the atmosphere on exposure, two watch-glasses should be used, clipped together with an india-rubber-band. For liquids, two test-tubes, one smaller than the other, are placed with their tops in opposite directions. It should also be remembered that it is best to become accustomed to placing the substances to be weighed in the left-hand pan and the weights in the right-hand pan.

P. E. Owens, in *The Amateur Photographer*.



WITH THE TRADE



An Effort to Standardize Small Plate-Cameras

THROUGH the courtesy of Mr. Arthur C. Brookes, secretary of the British Photographic Manufacturers' Association, Limited, we are informed of the decision of this association to standardize small plate-cameras. Camera-makers are requested in their own interests—as well as in the interests of the industry—to make all their new models in the following standard sizes, viz. $4\frac{1}{2} \times 6$ c.m., $6\frac{1}{2} \times 9$ c.m., 8×12 c.m. and 10×15 c.m. Moreover, to obviate the difficulty of describing plate-sizes by giving their dimensions, the association has decided to use numbers to designate each size of plate, thus: $4\frac{1}{2} \times 6$ c.m. as No. 0; $6\frac{1}{2} \times 9$ c.m. as No. 1; $3\frac{1}{4} \times 4\frac{1}{4}$ as No. 3, etc. A camera constructed to take a $3\frac{1}{4} \times 4\frac{1}{4}$ plate, is termed No. 3, and the trade-names of the various manufacturers are used conveniently with the standard numbers as follows: Nemo No. 2/3 equals Nemo camera, model 2, $3\frac{1}{4} \times 4\frac{1}{4}$ size. No manufacturer is asked to discontinue making the existing sizes; but it is believed that the adoption of the new standard plate-sizes will, in time, render the older sizes obsolete.

Panchromatic Plates for The Studio

It has taken many years to educate the steady-going studio-photographer to the use of color-sensitive or "ortho" plates even for copies and special subjects, and in many studios they are still unknown. Hence it is not surprising that the panchromatic plate, with all its advantages, has penetrated into few establishments, these being mainly process and commercial houses. It is true that panchromatics cost more than ordinary plates, but even when they cost less than half what the latter do now, photographers looked askance at them—why, we cannot tell, nor do we suppose can they.

There are a few misconceptions regarding these very valuable plates which we will try to remove. In the first place, there is an idea that panchromatic plates are suitable only for special subjects, and that they are not available for use without a yellow filter. This is quite wrong. There is nothing that can be done with an ordinary plate that cannot be better done with a panchromatic, and although a filter is necessary if perfect color rendering is required they are better than the ordinary ones even if used without it for any subject into which color enters. Recently, we had occasion to notice that one of these plates gave as good a color-rendering without a filter as one of the older orthochromatic plates gave with one. Nevertheless, we strongly advocate the use of a filter even if it be only an resolute one, which cuts out the ultra-violet rays but does not appreciably increase the exposure. Respecting this screen, which is not supposed to be durable, we may say that recently we tested a gelatine film-screen of this kind which had retained its properties for nearly seven years. Therefore, there is no need to be troubled with a liquid screen.

The second misconception is that some disadvantage is attached to the fact that panchromatic plates require handling in perfect darkness. There is really nothing in this. With ordinary care even unbacked plates can be filled into the plateholders and placed in

the developer without danger of using the wrong side; whereas if they are backed, it is next to impossible to make a mistake. The old idea that it is necessary to watch the development of a plate should be quite exploded now, and it is quite unnecessary to keep the darkroom without even a red light, if the plates are developed in a covered tank, or if the dish is placed in a light-tight box which can be rocked for the few minutes necessary for development. We have developed some thousands of plates in this way, and can assure our readers that the quality of the negatives was as even as if they had been developed in a good non-actinic light of the usual kind.

Another mistake is to think that panchromatic plates rapidly deteriorate by keeping; this we have not found to be the case. We have used them of various ages up to four years, at the end of which time they have slightly darkened around the edges, but not more than some process-plates which had been stored with them. The color sensitiveness had decreased but little.

As to their everyday application, we would point out that certain subjects, such as old dark oil-paintings, most of dark woods, and many other deeply colored objects, can be successfully rendered only by them, whereas with many other objects which do not appear to the eye to require any special treatment the difference in the results obtained against ordinary and even ortho plates must be seen to be believed.

For portraiture they are admirable, and we believe that no operator who relies upon the lens rather than upon the retouching-pencil would ever use an ordinary plate after a fair trial. Used with a K 2 or even a K 1 screen the images appear as smooth as if highly retouched, of course leaving the question of lighting and facial irregularities out of the question. Deep yellow or red hair gets its true visual value and does not appear black, but full of detail, whereas freckles disappear and sallow complexions do not appear heavy and dirty. Freckles, of course, are obliterated, and there is a general softness of definition, due to the fact that the little red blood vessels just under the skin are not rendered as dark spots, which give a rough texture on even an orthochromatic film.

It is hardly necessary to point out to scientific workers that for all microscopical work, stained preparations, anatomical subjects, and nearly every other class of work they are indispensable, whereas for industrial work they are equally useful. Furniture, machinery, colored diagrams all call for a plate that gives true color values, and for the three-color worker, either in carbon, dyed gelatine, or etched plates, no other kind is possible. As an example of their powers, we were told that a technical photographer was recently called upon to dissect some elaborate color-diagrams in which certain movements were shown on the one sheet in colored graphic curves upon black ruled squares. With the aid of the panchromatic plate, and suitable contrast screens each color was isolated so that it could be shown as a separate diagram, the black lines being, of course, common to all.

We hope that our remarks may lead those who feel that there is a possibility of improving their work to give these plates a trial, and we wish to say that we are alluding to no one make.—*The British Journal*.

Rational Development

THERE are many ideas as to what is the correct way to develop a negative, and the exponents of each claim that theirs is the true and only way. There is no accepted standard for goodness in a negative, which is perhaps a good thing, for its absence allows of individuality in the finished result, although this must not be confused with "flaking," which is what happens when an operator aims at one effect and obtains quite another, which he is astute enough to put forward as a premeditated piece of work. The clever photographer is the man who starts with a definite idea for a picture, and by skilled technique realizes it in a print. To do this one must have perfect control of exposure and development. The best lighted figure may be made either hard or flat by incorrect exposure, and a correctly exposed plate may be made to yield a thin soft image or a dense harsh one by injudicious or careless development.

To ensure even quality it is very necessary to keep to one brand, and preferably one grade of plate. The best technician in the world could not produce a dozen negatives of even quality from twelve plates of different makes and rapidities even if all had received an equivalent exposure. Plates vary greatly in the time taken for development and in the appearance of the image before fixing. A common way to judge the progress of development is to look for a trace of the image on the back of the plate. This can be done only if one brand of plate is in use, and then only to a limited extent, as this method is quite upset by variations in the thickness of the emulsion-coating. While upon this subject it may be useful to correct an error sometimes made, which is, that when the image is clearly visible on the back of the film, the utmost density which the plate will give has been obtained. We had a case under our notice some few months ago where the operator proposed to change his plates, because, although he developed them right through to the back, the images were always thin. On our suggestion he allowed some plates to remain in the developer for three minutes longer than others, which he fixed at his usual time, and was convinced by the difference in density that his development had always been carried on for too short a time.

One of the old errors was that the best results could be obtained only by what was known as "tentative development." This meant beginning the development with a minimum of alkali, which was gradually added as needed. There was some reason for this when ammonia was used as the alkali, as volatilization rapidly reduced the activity of the solution, and fresh ammonia was needed to complete development. When the fixed alkalis in the form of the carbonate of soda and potash came into general use the "working up," by adding small quantities of alkali to the developer, fell into disuse, although a few old-fashioned workers still practice it.

It is not our purpose to recommend any particular developing-agent as superior to the others. Some developers have the reputation of giving thin images and others plucky ones, but this is largely a question of dilution and temperature. Next to exposure, which decides the possibilities of the negative, comes length of development with any given solution. With normal exposures short development gives a thin flat negative and long development gives the maximum of density and contrast. Between these extremes the operator must choose for himself. All non-staining developers, such as amidol, hydrochinone, and many others yield a negative of which the printing-quality is due to reduced silver only, but pyro behaves differently, the

silver-image being reinforced by the "pyro-stain." It is generally acknowledged that a pyro-developed negative will usually give a more brilliant print than one of apparently similar density, but free of stain. This is due to the fact that the stain is deposited in proportion to the density of the image, and is not uniform all over the plate. If such a negative be dissolved away, by using Farmer's reducer, it will be found that a thin brownish-yellow image remains.

One of the commonest errors in development is to overdevelop underexposed plates, and to underdevelop overexposed ones. This is caused in the first place by the desire to force out all possible detail in the shadows, the result being that the highlights are made so dense that any shadow-detail is lost in the necessary depth of printing. In the second case the overexposed plate is underdeveloped because the whole surface of the film blackens quickly, and the operator fears that the detail will become buried. This is quite wrong; the proper course is to develop for the full normal time, and to dissolve away the fog with the ferri-cyanide reducer. It may be noted here that it is of little or no avail to add bromide to the developer after the image is well out; to be effective, bromide should be added to the developer before pouring on the plate.

The degree of dilution of the developer has an important effect upon the negative. A weak solution can be used until all the details of an underexposed plate are brought out, without obtaining too much intensity in the highlights. Concentrated solutions give the maximum of contrast, especially when a little bromide is used in addition.

Too prolonged development will give a general chemical fog, and an excess of alkali often added in cases of underexposure has the same effect. A disagreeable color, not quite a fog, is caused by putting plates developed with amidol or metol direct into the fixing-bath without rinsing. With pyro the fixing-bath becomes discolored rapidly; but with the non-stain developers a large quantity of solution can be carried over into the fixing-bath without altering the color very much.—*The British Journal*.

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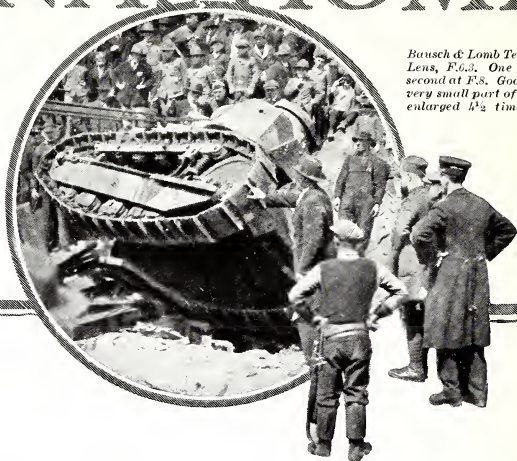
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37 <i>Ainslee's Magazine</i>	2.00	50 <i>Current History</i>	3.00	100 <i>New Republic (w)</i>	5.00
30 <i>All Outdoors</i>	1.50	55 <i>Current Opinion</i>	3.00	80 <i>North American Review</i>	4.00
85 <i>Amateur Photographer and Photography (w'kly) London (post-paid)</i>	4.25	30 <i>Delineator</i>	1.50	35 <i>Outdoor Life</i>	2.00
35 <i>Amateur Photographer's Weekly</i>	2.00	30 <i>Designer</i>	1.50	35 Outer's Book-Recreation	2.00
40 <i>American Boy</i>	2.00	30 Etude (for Music-lovers)	1.75	60 <i>Outing</i>	3.00
25 <i>American Cookery</i>	1.50	40 <i>Everybody's Magazine</i> ..	2.00	35 PHOTO-ERA	2.00
40 <i>American Magazine</i> ..	2.00	5 <i>Farm and Fireside</i>25	35 <i>Photo Journal of America</i>	2.00
35 <i>American Photography</i> ..	2.00	35 <i>Field and Stream</i>	2.00	60 <i>Photo-Miniature</i>	3.00
70 Art-World and Arts and Decoration	4.00	35 <i>Forest and Stream</i>	2.00	35 <i>Physical Culture</i>	2.00
80 <i>Atlantic Monthly</i>	4.00	35 Garden Magazine ..	2.00	35 <i>Pictorial Review</i>	2.00
25 <i>Baseball Magazine</i>	1.50	80 <i>Harper's Magazine</i>	4.00	40 <i>Popular Science Monthly</i>	2.00
80 <i>Bookman</i>	4.00	60 <i>House Beautiful</i>	3.00	60 Review of Reviews ..	4.00
25 Boys' Life, the Boy Scouts' Magazine	1.50	35 <i>Illustrated World</i>	2.00	95 <i>Scientific American (w)</i> ..	5.00
64 <i>British Journal of Photography (weekly) London (postpaid)</i>	3.17	80 <i>Independent (weekly)</i> ..	4.00	70 Scribner's Magazine	4.00
35 <i>Bulletin of Photography (weekly)</i>	2.00	90 International Studio	5.00	30 <i>Short Stories</i>	1.50
35 <i>Camera</i>	2.00	100 <i>Judge (weekly)</i>	5.00	45 <i>Smart Set</i>	3.00
17 <i>Camera Craft (new)</i>	1.00	100 <i>Leslie's Weekly</i>	5.00	30 Sunset Magazine ...	1.50
20 <i>Camera Craft (renewal)</i> ..	1.00	100 <i>Life (weekly)</i>	5.00	75 <i>Theatre Magazine</i>	4.00
45 <i>Christian Herald (w'kly)</i>	2.50	25 <i>Little Folks</i>	1.50	70 The Touchstone (Am. Art Student Mag.) ...	4.00
50 <i>Collier's Weekly</i>	2.50	20 McCall's Magazine ..	1.00	40 Woman's Home Companion	2.00
		35 <i>McClure's Magazine</i> ...	2.00	15 <i>Woman's Magazine</i>75
		40 <i>Metropolitan</i>	2.50	60 <i>World's Work</i>	4.00
		30 <i>Modern Priscilla</i>	1.50	50 <i>Yachting</i>	2.50
		32 <i>Mother's Magazine</i>	2.00	40 <i>Youth's Companion (w)</i>	2.00
		55 Musical America (w)	3.00		
		70 <i>Nation (weekly)</i>	4.00		

The following magazines are sold ONLY at the regular subscription-price:

<i>Adventure</i>	\$3.00	<i>Ladies' Home Journal</i> ..	\$1.75	<i>Printing-Art</i>	\$3.00
<i>All-Story Weekly</i>	4.00	<i>Literary Digest (weekly)</i> ...	4.00	<i>Railroad Man's Magazine</i> ..	4.00
<i>Cartoons Magazine</i>	3.00	<i>Motor Age (weekly)</i>	3.00	Saturday Evening Post ..	2.00
Century Magazine	4.00	<i>Motor</i>	3.00	<i>St. Nicholas</i>	3.00
<i>Cosmopolitan</i>	2.00	<i>Motor-Boat (s-m)</i>	2.00	Sea-Power	3.50
Country Gentleman (w)	1.00	<i>Motor Boating</i>	2.00	<i>Smith's Magazine</i>	2.00
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<i>Good Housekeeping</i>	1.50	<i>Nat'l Geographic Magazine</i> ..	2.50	<i>Vanity Fair</i>	3.00
<i>Harper's Bazar</i>	3.00	<i>Outlook (weekly)</i>	4.00	<i>Vogue (semi-monthly)</i>	5.00
<i>Hearst's Magazine</i>	2.00	<i>Popular Magazine (s-m)</i>	4.00		
<i>House and Garden</i>	3.00	Popular Mechanics	2.00		

HOW TO MAKE UP CLUBS

To obtain the club-price of any combination of periodicals from the list given above, find the class-number of each of the magazines in the left-hand column, add them together and multiply the sum by five cents. The result is the club-price in the United States. Canadian or foreign postage is extra, and must be added to the price of each magazine. We shall be very glad to state the amount of either Canadian or foreign postage, and to fill orders for any magazines, whether listed here or not. Let us make a quotation on the list you desire. Our prices are equal to the lowest.

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Rochester, N. Y.

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A DOUBLE DRAMA WITH A SINGLE THOUGHT

Drama No. 1

Time 1930. Scene, library of comfortably furnished home. Curtain rises and discovers Mr. and Mrs. Smith at reading table looking over Kodak album.

Mrs. Smith—That's the picture I made of you, Jim, the day you came back from France. You haven't changed so very much, have you?

Mr. Smith—Give me credit for having had a little more hair at that time, my dear. By the way, when was that picture made?

Mrs. Smith—Just a second till I look at the Autographic record. Here we are. January 18th, 1920.

Drama No. 2

Same time, similar scene. Curtain discovers Mr. and Mrs. Cooper poring over Kodak album.

Mrs. Cooper—Here's that picture of you, Jack, that I made the day your regiment got back.

Mr. Cooper—Some regiment, too, believe me. Say, Mary, when was that picture made?

Mrs. Cooper—Why, let me see. Wasn't it in 1918, or was it in 1919—in February, or was it June? No it wasn't either—Honestly, I can't remember. I wish that I had had my Autographic Kodak *then*.

MORAL

The most interesting thing about many of the pictures you are making now is the date. Write it on the film at the time.

Eastman Kodak Company

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With the home-coming of the soldiers, Kodak must call in an ally or two if it is to do full justice to the precious opportunities.

There's the Kodak Portrait Attachment, for example. You want close-ups of your soldier—an image big enough so that his service stripe, let us say, will be clearly visible. The Kodak Portrait Attachment brings your Kodak into sharp focus at close range with the obvious result that the resulting head and shoulder portrait occupies most of the picture area. The service the Kodak Portrait Attachment renders is invaluable, but the price is fifty cents.

An then there is the chance for enlargements. You will want pictures of the welcome at the station and the triumphal march through the town that are big enough to frame. Through their importance historically and through their interest, some of the pictures that you will make in the months to come are fairly entitled to a large size.

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The price ranges from \$2.50 up, according to size.

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Eastman Kodak Company

ROCHESTER, N. Y., *The Kodak City.*

The fact that some are coming back now, makes it all the harder for those who must remain with the army of occupation in Europe.

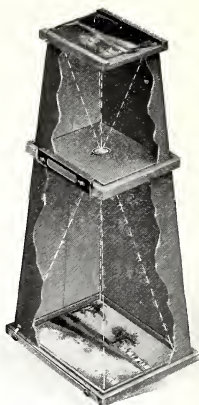
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Little
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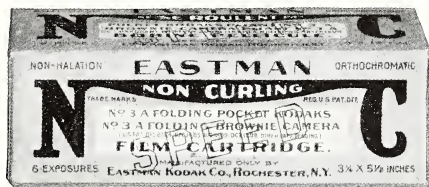
Extremely simple to operate—no focusing—expose to daylight.

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Eastman *Autographic* Film

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OUR activities for the past year have been nearly 100 per cent. devoted to war production of vital importance to the government, compelling us to discontinue regular manufacture in practically all of our lines.

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Bausch & Lomb Optical Co.

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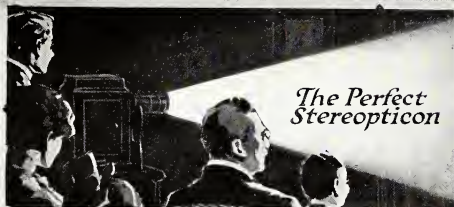
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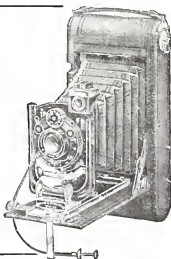
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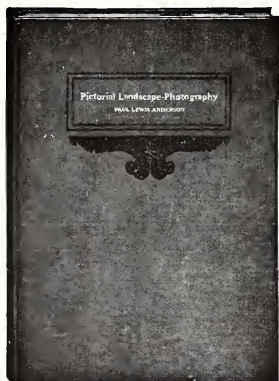
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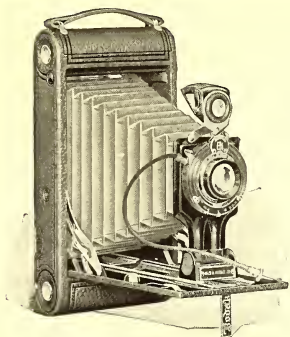
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There isn't the compensating thrill to the soldier's life now-a-days. He needs pictures and letters more than he ever did.

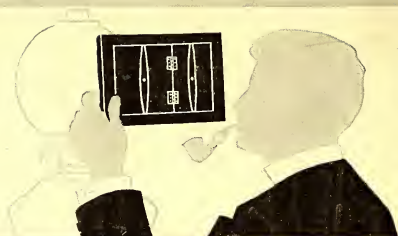
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